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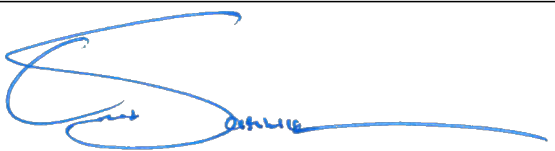
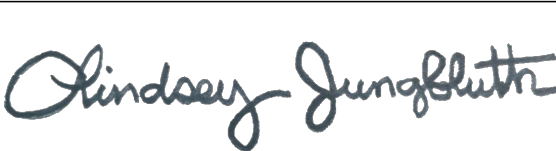
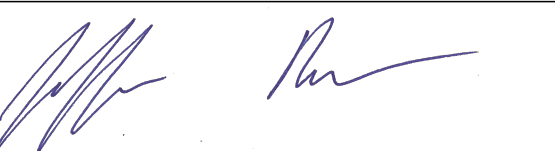
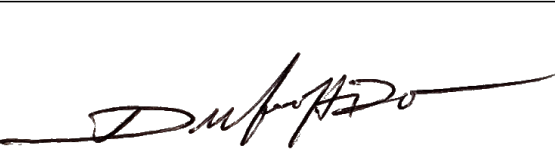
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PLAN  
REFERENCE  
NO.

SHEET  
OF  
SHEETS

NOTE: ALL SHEET REFERENCES, FIRST NOS.OF STRUCTURE CODE DESIGNATIONS AND MATCH LINE SHEET REFERENCES,ETC., THROUGHOUT THE PLANS, REFER TO THE ENTRY IN THE PLAN REFERENCE NUMBER BOX.


## PROJECT LICENSED PROFESSIONAL CERTIFICATES

 Melissa Ambler Jan 23, 2023 AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.	 Terry M. Bondy Jan 23, 2023 AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.	 Richard Zeldenrust Jan 23, 2023 AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.	 Julie Heilman Jan 23, 2023 AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.
 Chad Schulhauser Jan 23, 2023 AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.	 Lindsey Jungbluth Jan 23, 2023 AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.	 Jeffrey Bruce Jan 24, 2023 AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.	 DUKE H DO Jan 23, 2023 AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.
          AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.	          AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.	          AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.	          AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.

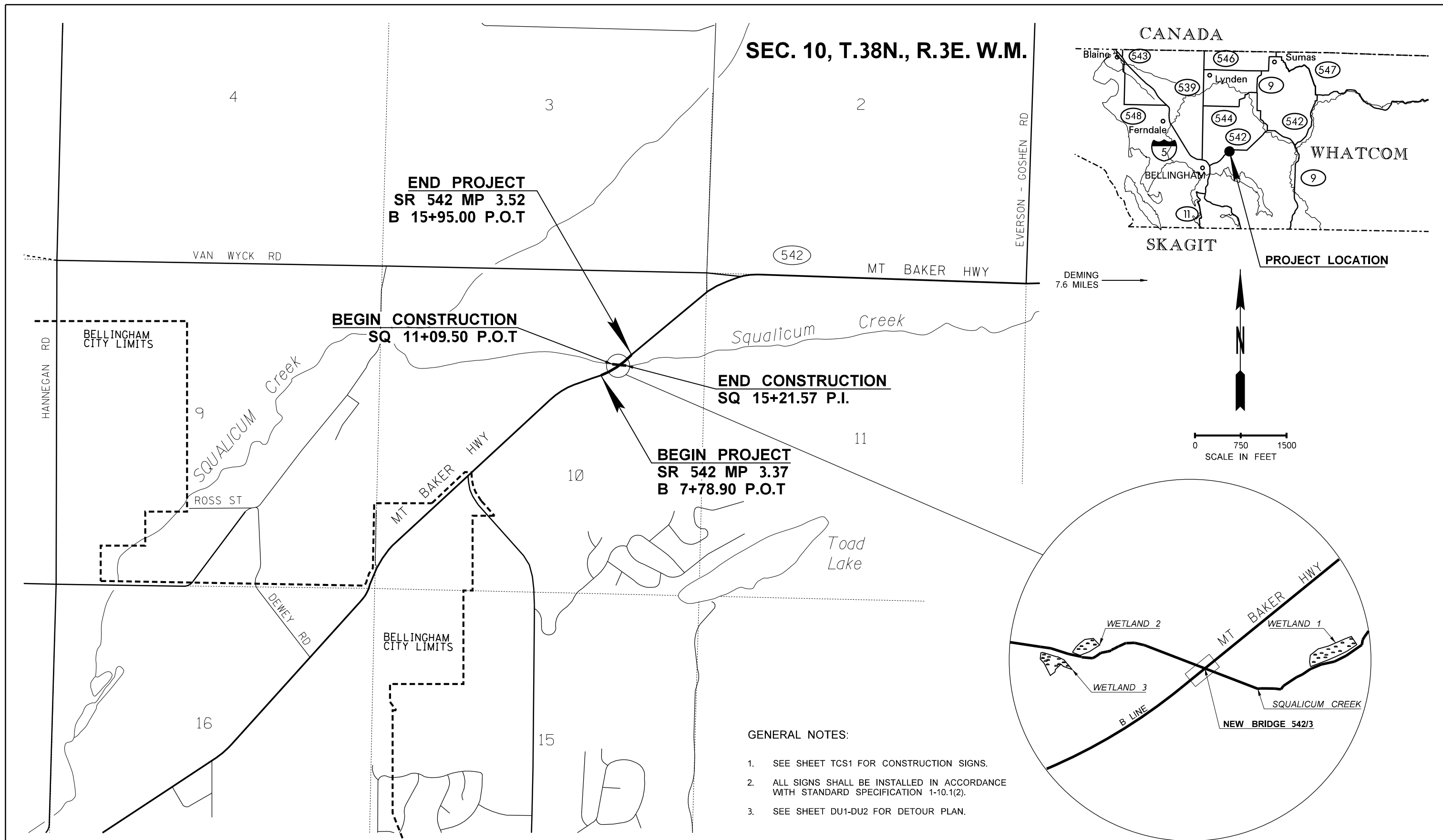
NOTES:

THIS PLAN SET WAS DEVELOPED ELECTRONICALLY UNDER THE DIRECT SUPERVISION  
OF THE LICENSED PROFESSIONALS THAT HAVE AFFIXED THEIR SIGNATURE TO THIS PAGE.

THIS SHEET SERVES AS THE CERTIFICATION BY THE ABOVE LICENSED PROFESSIONALS  
OF ALL SHEETS IN THIS PLAN SET WHERE THEIR STAMPS AND SIGNATURES APPEAR.

FILE NAME T:\412354\XL6093_SR542_Squalicum_to_Bham\CAEI\ContractPlans\XL6093_011_PS_CT.dgn										 <p>Washington State Department of Transportation</p>		<p>SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE</p>		Plot 1	
TIME	9:51:22 AM				REGION NO.	STATE	FED.AID PROJ.NO.		PLAN REF NO						
DATE	12/27/2022				10	WASH			CT1						
DESIGNED BY	R. ZAKERSKI				JOB NUMBER				SHEET 2 OF 95 SHEETS						
ENTERED BY	R. ZAKERSKI				22A033										
CHECKED BY	A. GOO				CONTRACT NO.		LOCATION NO.								
PROJ. ENGR.	M. AMBLER														
REGIONAL ADM.	B. NIELSEN														
REVISION															
DATE															
BY															



[illegible]

SUMMARY OF QUANTITIES

DOT\_RGG900

1/10/2023

ITEM NO	TOTAL QUANTITY	SUB-TOTAL * SECTION I-07.2(1) OF STANDARD SPECS	SUB-TOTAL ** SECTION I-07.2(2) OF STANDARD SPECS	STD. ITEM NO.	UNIT	ITEM	GROUP 1  SR 542 MP 3.37 TO MP 3.52	GROUP 2  CITY OF BELLINGHAM WATERLINE UTB1516	GROUP 3  THIRD PARTY DAMAGES													
						PREPARATION																
1	LUMP SUM		LUMP SUM	0001	L.S.	MOBILIZATION	L.S.	L.S.														
2	0.90		0.90	0025	ACRE	CLEARING AND GRUBBING	0.90															
3	LUMP SUM		LUMP SUM	0050	L.S.	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.S.	L.S.														
4	940.00		940.00	0170	L.F.	REMOVING GUARDRAIL	940.00															
5	4.00		4.00	0182	EACH	REMOVING GUARDRAIL ANCHOR	4.00															
6	20.00		20.00	0185	EACH	REMOVING GUIDE POST	20.00															
7	2.00		2.00	0200	EACH	REMOVING PLASTIC TRAFFIC MARKING	2.00															
8	0.10		0.10	0208	HUND	REMOVING RAISED PAVEMENT MARKER	0.10															
						GRADING																
9	810.00		810.00	0310	C.Y.	ROADWAY EXCAVATION INCL. HAUL	810.00															
10	800.00		800.00	0408	TON	SELECT BORROW INCL. HAUL	800.00															
11	200.00		200.00	0470	C.Y.	EMBANKMENT COMPACTION	200.00															
						DRAINAGE																
12	21470.00		21470.00	1040	C.Y.	CHANNEL EXCAVATION INCL. HAUL	21,470.00															
13	1642.00		1642.00	1093	TON	STREAMBED SEDIMENT	1,642.00															
14	993.00		993.00	0904	TON	STREAMBED COBBLES 12 IN.	993.00															
15	52.00		52.00	0906	TON	STREAMBED BOULDER TYPE ONE	52.00															
16	30.00		30.00	1086	TON	QUARRY SPALLS	30.00															
17	3.00		3.00		EACH	DRAINAGE SCUPPER	3.00															
18	121.00		121.00	1170	L.F.	DRAIN PIPE 6 IN. DIAM.	121.00															
19	LUMP SUM		LUMP SUM	3075	L.S.	TEMPORARY STREAM DIVERSION	L.S.															
20	15000.00		15000.00	7715	DOL	FORCE ACCOUNT - FISH EXCLUSION ASSISTANCE	15,000.00															
21	8.00		8.00		EACH	WOODY MATERIAL - LOG WITH ROOTWAD DBH 30 IN.	8.00															
22	28.00		28.00		EACH	WOODY MATERIAL - LOG WITH ROOTWAD DBH 24 IN.	28.00															
23	17.00		17.00		EACH	WOODY MATERIAL - LOG WITH ROOTWAD DBH 18 IN.	17.00															
24	6.00		6.00		EACH	WOODY MATERIAL - LOG WITHOUT ROOTWAD DBH 18 IN.	6.00															
25	16.00		16.00		C.Y.	SLASH	16.00															
26	261.00		261.00		TON	STREAMBED SAND	261.00															
						WATER LINES																
27	686.00		686.00		L.F.	HDPE PIPE FOR WATER MAIN 4 IN. DIAM.		686.00														
28	325.00		325.00		L.F.	HDPE PIPE FOR WATER MAIN 12 IN. DIAM.		325.00														
29	165.00		165.00		L.F.	HDPE PIPE FOR CASING 22 IN. DIAM.		165.00														
30	LUMP SUM		LUMP SUM		L.S.	MAINTAIN SERVICE CONNECTION		L.S.														
						STRUCTURE																
31	18050.00		18050.00	4006	C.Y.	STRUCTURE EXCAVATION CLASS A INCL. HAUL	18,050.00															
32	LUMP SUM		LUMP SUM	4013	L.S.	SHORING OR EXTRA EXCAVATION CL. A	L.S.															
33	16610.00		16610.00	4149	LB.	ST. REINF. BAR FOR BRIDGE	16,610.00															
34	155.00		155.00	4322	C.Y.	CONC. CLASS 4000 FOR BRIDGE	155.00															
35	388.00		388.00	4324	C.Y.	CONC. CLASS 4000W FOR BRIDGE	388.00															
36	411.00		411.00	4269	L.F.	PRESTRESSED CONC. GIRDER WF50G	411.00															
37	-1.00		-1.00	4219	DOL	DEFICIENT STRENGTH CONC. PRICE ADJUSTMENT	-1.00															
38	LUMP SUM		LUMP SUM	4300	L.S.	SUPERSTRUCTURE - SQUALICUM CREEK	L.S.															
39	522.00		522.00	4410	L.F.	BRIDGE RAILING TYPE BP-12	522.00															

GROUP LEGEND	GROUP NUMBER	SR	CONTROL SECTION	TAX SCHEDULE	FUND PARTICIPANTS
	1	542	370530	**	STATE,FEDERAL
	2	542	370530	**	STATE,CITY
	3	542	370530	**	STATE

			REGION	STATE	FEDERAL AID PROJECT. NO.																	
			10	WA	ARPA001																	
			JOB NUMBER																			
			22A033/1																			
			CONTRACT NO																			
			000000																			
DATE			REVISION			BY																

Washington State  
Department of Transportation

SR 542  
SQUALICUM CRK TO BELLINGHAM BAY  
FISH PASSAGE

SUMMARY OF QUANTITIES

SQ1

SHEET  
4  
OF  
95  
SHEETS

SUMMARY OF QUANTITIES

DOT\_RGG900

1/10/2023

ITEM NO	TOTAL QUANTITY	SUB-TOTAL * SECTION I-07.2(1) OF STANDARD SPECS	SUB-TOTAL ** SECTION I-07.2(2) OF STANDARD SPECS	STD. ITEM NO.	UNIT	ITEM	GROUP 1	GROUP 2	GROUP 3												
							SR 542 MP 3.37 TO MP 3.52	CITY OF BELLINGHAM WATERLINE UTB1516	THIRD PARTY DAMAGES												
40	299.00		299.00	4410	L.F.	BRIDGE RAILING TYPE CHAIN LINK PIPE RAIL	299.00														
41	74.00		74.00	4410	L.F.	BRIDGE RAILING TYPE ABUTMENT RAILING	74.00														
42	210.00		210.00	4415	L.F.	TRAFFIC BARRIER	210.00														
43	312.00		312.00		L.F.	CELLULAR CONC. RETAINING WALL TRAFFIC BARRIER	312.00														
44	8858.00		8858.00		C.Y.	CELLULAR CONC. CLASS 2	8,858.00														
45	731.10		731.10		C.Y.	CELLULAR CONC. CLASS 3	731.10														
46	1635.90		1635.90		C.Y.	CELLULAR CONC. CLASS 4	1,635.90														
47	LUMP SUM		LUMP SUM		L.S.	SHEET PILE WALL	L.S.														
48	21.00		21.00		EACH	HANGER UTILITY SUPPORT		21.00													
49	208030.00		208030.00		LB.	WELDED WIRE FABRIC FOR CELLULAR CONC. RETAINING WALL	208,030.00														
						SURFACING															
50	290.00		290.00	5100	TON	CRUSHED SURFACING BASE COURSE	290.00														
						HOT MIX ASPHALT															
51	178.00		178.00	5711	S.Y.	PLANING BITUMINOUS PAVEMENT	178.00														
52	510.00		510.00	5767	TON	HMA CL. 1/2 IN. PG 58H-22	510.00														
53	3035.00		3035.00	5830	DOL	JOB MIX COMPLIANCE PRICE ADJUSTMENT	3,035.00														
54	5059.00		5059.00	5835	DOL	COMPACTION PRICE ADJUSTMENT	5,059.00														
55	1471.00		1471.00	5837	DOL	ASPHALT COST PRICE ADJUSTMENT	1,471.00														
56	5.00		5.00	6885	EACH	HMA CORE-ROADWAY	5.00														
57	68.00		68.00	6511	L.F.	HMA SAWCUT AND SEAL	68.00														
58	-1.00		-1.00	6516	DOL	CYCLIC DENSITY PRICE ADJUSTMENT	-1.00														
						EROSION CONTROL AND ROADSIDE PLANTING															
59	LUMP SUM		LUMP SUM	6488	L.S.	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	L.S.													
60	2585.00		2585.00	6502	L.F.	COIR LOG	2,585.00														
61	0.60		0.60	6491	ACRE	TEMPORARY SEEDING	0.60														
62	489.00		489.00		S.Y.	SOIL DECOMPACTION	489.00														
63	134.00		134.00	6552	EACH	PSIPE SITKA SPRUCE (NO. 2 CONT.)	134.00														
64	263.00		263.00	6552	EACH	PSIPE VINE MAPLE (NO. 2 CONT.)	263.00														
65	441.00		441.00	6552	EACH	PSIPE WESTERN RED CEDAR (NO. 2 CONT.)	441.00														
66	307.00		307.00	6552	EACH	PSIPE DOUGLAS FIR (NO. 2 CONT.)	307.00														
67	226.00		226.00	6552	EACH	PSIPE RED-OSIER DOGWOOD (NO. 1 CONT.)	226.00														
68	263.00		263.00	6552	EACH	PSIPE INDIAN PLUM (NO. 1 CONT.)	263.00														
69	116.00		116.00	6552	EACH	PSIPE PACIFIC NINEBARK (NO. 1 CONT.)	116.00														
70	379.00		379.00	6552	EACH	PSIPE THIMBLEBERRY (NO. 1 CONT.)	379.00														
71	226.00		226.00	6552	EACH	PSIPE SALMONBERRY (NO. 1 CONT.)	226.00														
72	263.00		263.00	6552	EACH	PSIPE RED ELDERBERRY (NO. 1 CONT.)	263.00														
73	379.00		379.00	6552	EACH	PSIPE SNOWBERRY (NO. 1 CONT.)	379.00														
74	1051.00		1051.00	6552	EACH	PSIPE WESTERN SWORD FERN (NO. 1 CONT)	1,051.00														
75	459.00		459.00	6552	EACH	PSIPE LADY FERN (NO. 1 CONT.)	459.00														
76	225.00		225.00	6552	EACH	PSIPE LIVE FASCINE	225.00														
77	220.00		220.00	6552	EACH	PSIPE TRENCH PLANTING	220.00														
78	4810.00		4810.00	6530	S.Y.	SOIL AMENDMENT	4,810.00														
79	4810.00		4810.00	6580	S.Y.	BARK OR WOOD CHIP MULCH	4,810.00														
80	1750.00		1750.00	6630	L.F.	HIGH VISIBILITY FENCE	1,750.00														
81	485.00		485.00	6635	L.F.	HIGH VISIBILITY SILT FENCE	485.00														
82	LUMP SUM		LUMP SUM	6404	L.S.	ENVIRONMENTAL COMPLIANCE LEAD	L.S.														

GROUP LEGEND	GROUP NUMBER	SR	CONTROL SECTION	TAX SCHEDULE	FUND PARTICIPANTS
	1	542	370530	**	STATE,FEDERAL
	2	542	370530	**	STATE,CITY
	3	542	370530	**	STATE

			REGION	STATE	FEDERAL AID PROJECT. NO.	Washington State Department of Transportation	SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE	SQ2
			10	WA	ARPA001			
			JOB NUMBER 22A033/1					
			CONTRACT NO 000000					SHEET 5 OF 95 SHEETS
DATE		REVISION	BY				SUMMARY OF QUANTITIES	

SUMMARY OF QUANTITIES

DOT\_RGG900

1/10/2023

ITEM NO	TOTAL QUANTITY	SUB-TOTAL * SECTION I-07.2(1) OF STANDARD SPECS	SUB-TOTAL ** SECTION I-07.2(2) OF STANDARD SPECS	STD. ITEM NO.	UNIT	ITEM	GROUP 1  SR 542 MP 3.37 TO MP 3.52	GROUP 2  CITY OF BELLINGHAM WATERLINE UTB1516	GROUP 3  THIRD PARTY DAMAGES													
						TRAFFIC																
83	50.00		50.00	6712	L.F.	BEAM GUARDRAIL TYPE 31 - 9 FT. LONG POST	50.00															
84	187.50		187.50	6757	L.F.	BEAM GUARDRAIL TYPE 31	187.50															
85	2.00		2.00	6760	EACH	BEAM GUARDRAIL TRANSITION SECTION TYPE 21	2.00															
86	2.00		2.00	6719	EACH	BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL	2.00															
87	4.00		4.00		EACH	BEAM GUARDRAIL ANCHOR TYPE 11	4.00															
88	2.00		2.00	7442	EACH	PERMANENT IMPACT ATTENUATOR	2.00															
89	8.00		8.00	6832	EACH	FLEXIBLE GUIDE POST	8.00															
90	5.00		5.00	6830	EACH	BARRIER DELINEATOR	5.00															
91	1520.00		1520.00	6807	L.F.	PLASTIC LINE	1,520.00															
92	24.00		24.00	6859	L.F.	PLASTIC STOP LINE	24.00															
93	3.00		3.00	6881	EACH	PLASTIC DRAINAGE MARKING	3.00															
94	8.00		8.00	6875	EACH	PLASTIC JUNCTION BOX MARKING	8.00															
95	0.20		0.20	6893	MI.	CENTERLINE RUMBLE STRIP	0.20															
96	0.20		0.20	6892	MI.	SHOULDER RUMBLE STRIP TYPE 4	0.20															
97	0.04		0.04	6889	HUND	RECESSED PAVEMENT MARKER	0.04															
98	1043.00		1043.00	6945	L.F.	CONDUIT PIPE 2 IN. DIAM.	1,043.00															
99	LUMP SUM		LUMP SUM		L.S.	TEMPORARY TRAFFIC SIGNAL AND VIDEO DETECTION SYSTEM	L.S.															
100	8.00		8.00		EACH	JUNCTION BOX TYPE 1	8.00															
101	LUMP SUM		LUMP SUM	6971	L.S.	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	L.S.														
102	2002.00		2002.00	6982	S.F.	CONSTRUCTION SIGNS CLASS A	2,002.00															
						OTHER ITEMS																
103	360000.00		360000.00	7002	DOL	INCENTIVE EARLY COMPL.	360,000.00															
104	LUMP SUM		LUMP SUM	7003	L.S.	TYPE B PROGRESS SCHEDULE	L.S.															
105	43.00		43.00	7006	C.Y.	STRUCTURE EXCAVATION CLASS B INCL. HAUL		43.00														
106	327.00		327.00	7008	S.F.	SHORING OR EXTRA EXCAVATION CLASS B		327.00														
107	LUMP SUM		LUMP SUM	7037	L.S.	STRUCTURE SURVEYING	L.S.	L.S.														
108	LUMP SUM		LUMP SUM	7038	L.S.	ROADWAY SURVEYING	L.S.															
109	273.00		273.00	7065	S.Y.	CONC. SLOPE PROTECTION	273.00															
110	75000.00		75000.00	7715	DOL	FORCE ACCOUNT - WORK ZONE SAFETY CONTINGENCY	75,000.00															
111	10000.00		10000.00	7715	DOL	FORCE ACCOUNT - ADDITIONAL STREAMBED GRADING	10,000.00															
112	10000.00		10000.00	7715	DOL	FORCE ACCOUNT - ADDITIONAL STREAM RESTORATION	10,000.00															
113	7500.00		7500.00	7480	DOL	ROADSIDE CLEANUP	7,500.00															
114	5.00		5.00	7725	DOL	REIMBURSEMENT FOR THIRD PARTY DAMAGE			5.00													
115	-1.00		-1.00	7728	DOL	MINOR CHANGE	-1.00															
116	2695.68		2695.68	7731	DOL	STEEL COST ADJUSTMENT	2,695.68															
117	-1.00		-1.00	7732	DOL	AGGREGATE COMPLIANCE PRICE ADJUSTMENT	-1.00															
118	LUMP SUM		LUMP SUM	7736	L.S.	SPCC PLAN	L.S.	L.S.														
119	1340.00		1340.00	7535	S.Y.	CONSTRUCTION GEOTEXTILE FOR DITCH LINING	1,340.00															
120	44.00		44.00	7554	S.Y.	CONSTRUCTION GEOTEXTILE FOR PERMANENT EROSION CONTROL	44.00															
121	13354.00		13354.00	7561	S.F.	SHOTCRETE FACING	13,354.00															
122	1.00		1.00	7562	EACH	MAILBOX SUPPORT TYPE 2	1.00															

GROUP	GROUP NUMBER	SR	CONTROL SECTION	TAX SCHEDULE	FUND PARTICIPANTS
LEGEND	1	542	370530	**	STATE,FEDERAL
	2	542	370530	**	STATE,CITY
	3	542	370530	**	STATE

			REGION	STATE	FEDERAL AID PROJECT. NO.																	
			10	WA	ARPA001																	
			JOB NUMBER																			
			22A033/1																			
			CONTRACT NO																			
DATE			REVISION	BY	000000																	

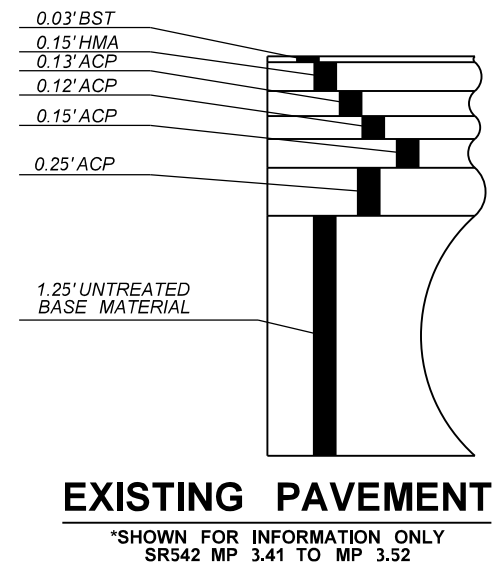
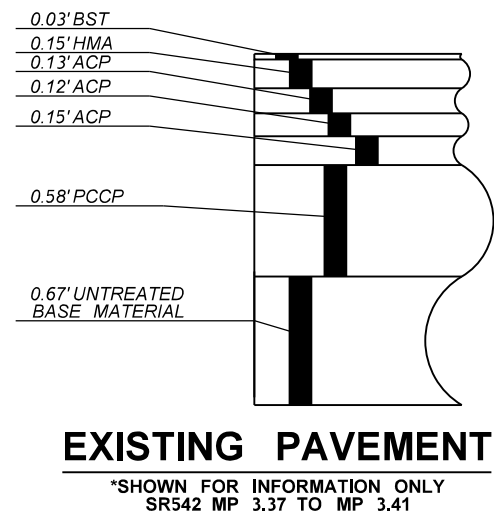
Washington State  
Department of Transportation

SR 542  
SQUALICUM CRK TO BELLINGHAM BAY  
FISH PASSAGE

SUMMARY OF QUANTITIES

SQ3

SHEET  
6  
OF  
95  
SHEETS



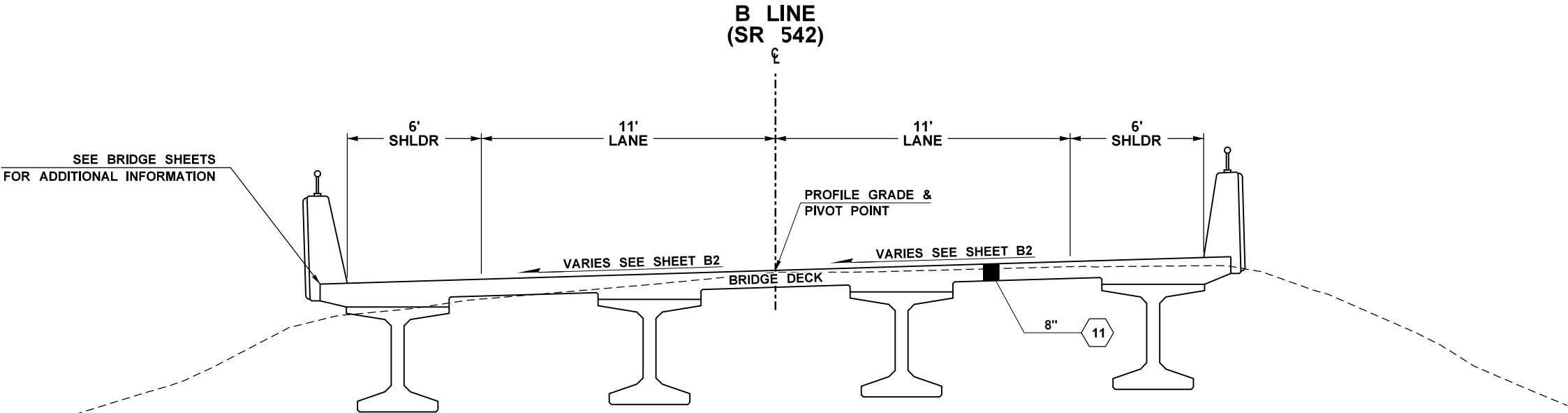
LEGEND	
1	ROADWAY EXCAVATION INCL. HAUL
2	HMA CL. 1/2 IN. PG 58H-22
3	CRUSHED SURFACING BASE COURSE
4	SELECT BORROW INCL. HAUL
5	PLANING BITUMINOUS PAVEMENT
6	STRUCTURE EXCAVATION CLASS A INCL. HAUL
7	SHORING OR EXTRA EXCAVATION CLASS A
8	CELLULAR CONC. TYPE 2
9	CELLULAR CONC. TYPE 4
10	EMBANKMENT COMPACTION
11	STRUCTURE DECK (SEE NOTE 8)
12	PERMANENT IMPACT ATTENUATOR
13	CHANNEL EXCAVATION INCL. HAUL

- ## GENERAL NOTES:
- ALL SURFACING AND PAVING DEPTHS ARE COMPACTED DEPTHS AND COURSES SHALL NOT EXCEED THE DEPTHS DEFINED IN THE STANDARD SPECIFICATIONS.
  - SEE SHEETS QTPV1 AND PV1 FOR ADDITIONAL GUARDRAIL INFORMATION.
  - SEE SHEET PV1 FOR BEAM GUARDRAIL TYPE 31 LOCATIONS AND GRADING LIMITS FOR BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL PADS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND PLANNING TO COORDINATE BEAM GUARDRAIL POST PLACEMENT BASED ON UTILITY LOCATES AND ANY KNOWN OBSTRUCTIONS.
  - DEPTH VARIES WITH PROFILE. WHEN THE CONTRACTOR ENCOUNTERS EXISTING PCCP PANELS DURING ROADWAY EXCAVATION THEY SHALL BE REMOVED, AND BACK FILLED WITH SELECT BORROW INCL. HAUL UP TO THE CRUSHED SURFACING BASE COURSE LAYER. REMOVAL OF PCCP PANELS SHALL BE PAID WITH THE BID ITEM ROADWAY EXCAVATION INCL. HAUL.
  - EXISTING GROUND SHOWN IS FOR INFORMATIONAL USE ONLY. IT IS INTENDED TO INDICATE THE GROUND ENCOUNTERED AFTER STRUCTURE EXCAVATION AND SHORING/OVER EXCAVATION IS COMPLETED. THE ACTUAL LOCATION OF EXISTING GROUND MAY VARY DEPENDING ON SHORING/OVER EXCAVATION METHODS USED.
  - SEE SHEET PV1 FOR THE PAVING LIMITS. LOCATIONS OF PLANING SECTIONS SHOWN ON SHEET PV1 TO BE PAID WITH THE BID ITEM PLANING BITUMINOUS PAVEMENT.

FILE NAME T:\412354\XL6093_SR542_Squalicum_to_Bhami\CAE\ContractPlans\XL6093_050_PS_RS.dgn										Plot 1	
TIME 9:56:49 AM						REGION NO. STATE		FED.AID PROJ.NO.		PLAN REF NO	
DATE 1/9/2023						10 WASH				RS1	
PLOTTED BY zakersr						JOB NUMBER				SHEET	
DESIGNED BY R. ZAKERSKI						22A033				7	
ENTERED BY R. ZAKERSKI						CONTRACT NO.		LOCATION NO.		OF	
CHECKED BY A. GOO										95	
PROJ. ENGR. M. AMBLER										SHEETS	
REGIONAL ADM. B. NIELSEN		REVISION		DATE		BY					







**ROADWAY SECTION E**  
SQUALICUM CREEK BRIDGE 542/3  
STATION TO STATION  
B 11+40.09 TO B 12+45.09  
NOT TO SCALE  
SEE TYPICAL SECTION SHEET B13

**LEGEND**

- |   |   |    |                               |
|---|---|----|-------------------------------|
| 1 | ROADWAY EXCAVATION INCL. HAUL           | 8  | CELLULAR CONC. TYPE 2         |
| 2 | HMA CL. 1/2 IN. PG 58H-22               | 9  | CELLULAR CONC. TYPE 4         |
| 3 | CRUSHED SURFACING BASE COURSE           | 10 | EMBANKMENT COMPACTION         |
| 4 | SELECT BORROW INCL. HAUL                | 11 | STRUCTURE DECK (SEE NOTE 8)   |
| 5 | PLANING BITUMINOUS PAVEMENT             | 12 | PERMANENT IMPACT ATTENUATOR   |
| 6 | STRUCTURE EXCAVATION CLASS A INCL. HAUL | 13 | CHANNEL EXCAVATION INCL. HAUL |
| 7 | SHORING OR EXTRA EXCAVATION CLASS A     |    |                               |

**GENERAL NOTES:**

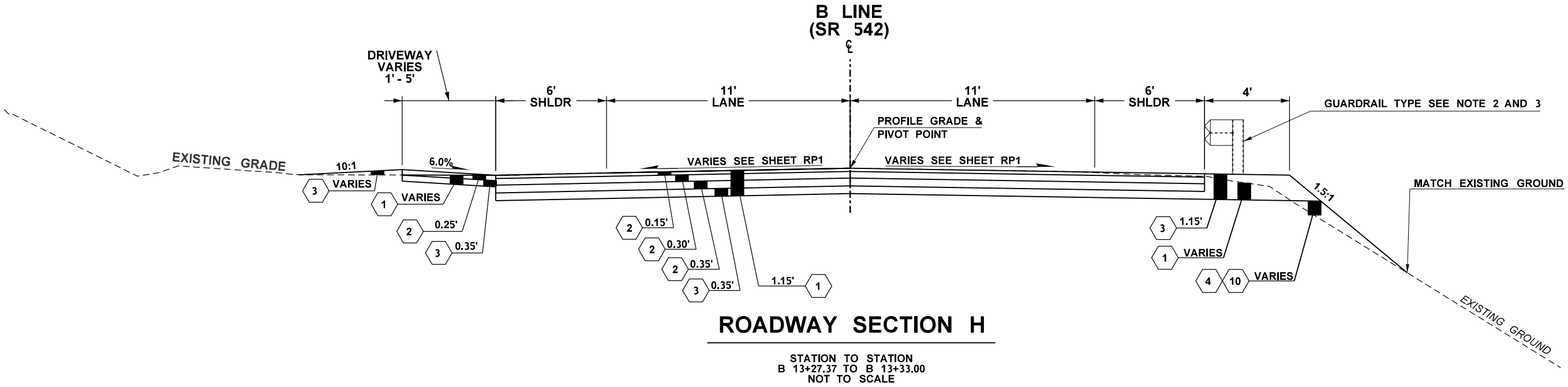
- ALL SURFACING AND PAVING DEPTHS ARE COMPACTED DEPTHS AND COURSES SHALL NOT EXCEED THE DEPTHS DEFINED IN THE STANDARD SPECIFICATIONS.
- DEPTH VARIES WITH PROFILE. WHN THE CONTRACTOR ENCOUNTERS EXISTING PCCP PANELS DURING ROADWAY EXCAVATION THEY SHALL BE REMOVED, AND BACK FILLED WITH SELECT BORROW INCL. HAUL UP TO THE CRUSED SURFACING BASE COURSE LAYER. REMOVAL OF PCCP PANELS SHALL BE PAID WITH THE BID ITEM ROADWAY EXCAVATION INCL. HAUL.
- EXISTING GROUND SHOWN IS FOR INFORMATIONAL USE ONLY. IT IS INTENDED TO INDICATE THE GROUND ENCOUNTERED AFTER STRUCTURE EXCAVATION AND SHORING /OVER EXCAVATION IS COMPLETED. THE ACTUAL LOCATION OF EXISTING GROUND MAY VARY DEPENDING ON SHORING /OVER EXCAVATION METHODS USED.
- THE CONTRACTOR SHALL ONLY USE STATIC ROLLERS TO PLACE SELECT BORROW, CSBC, AND HMA. VIBRATORY METHODS OF COMPACTION ARE NOT ALLOWED, SEE SPECIAL PROVISION CELLULAR CONCRETE.
- SEE BRIDGE PLANS FOR BRIDGE DECK AND BARRIER DETAILS. TRAFFIC BARRIER SHALL BE MIN. 42 INCHES IN HEIGHT, MEASURED FROM ADJACENT FINISHED ROADWAY SURFACE.
- MINIMUM DEPTH OF 2.0 FT ROADWAY EXCAVATION INCL. HAUL BELOW EXISTING GRADE.

FILE 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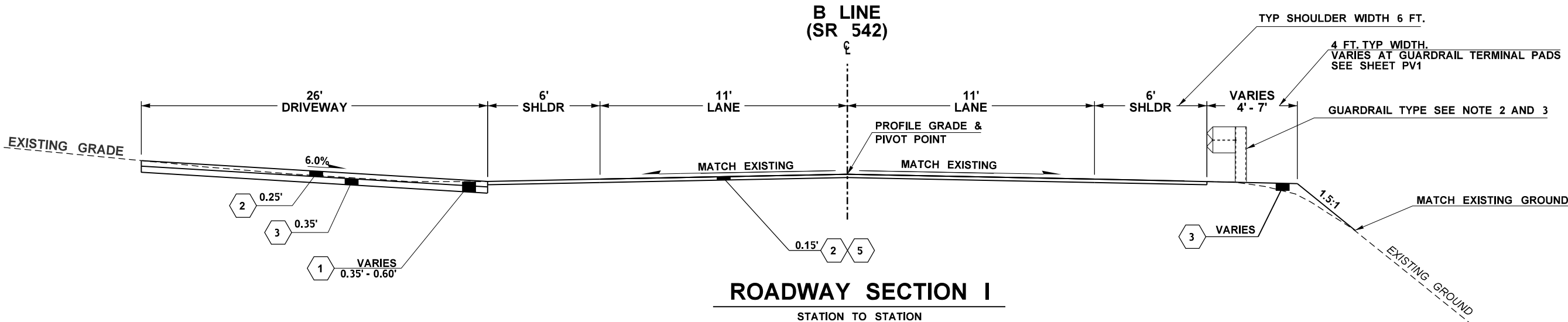






ROADWAY SECTION H

STATION TO STATION  
B 13+27.37 TO B 13+33.00  
NOT TO SCALE



ROADWAY SECTION I



STATION TO STATION  
B 13+33.00 TO B 13+70.00  
NOT TO SCALE

LEGEND

- |   |                                  |
|---|----------------------------------|
| 1 ROADWAY EXCAVATION INCL. HAUL           | 8 CELLULAR CONC. TYPE 2          |
| 2 HMA CL. 1/2 IN. PG 58H-22               | 9 CELLULAR CONC. TYPE 4          |
| 3 CRUSHED SURFACING BASE COURSE           | 10 EMBANKMENT COMPACTION         |
| 4 SELECT BORROW INCL. HAUL                | 11 STRUCTURE DECK (SEE NOTE 8)   |
| 5 PLANING BITUMINOUS PAVEMENT             | 12 PERMANENT IMPACT ATTENUATOR   |
| 6 STRUCTURE EXCAVATION CLASS A INCL. HAUL | 13 CHANNEL EXCAVATION INCL. HAUL |
| 7 SHORING OR EXTRA EXCAVATION CLASS A     |                                  |

GENERAL NOTES:

- ALL SURFACING AND PAVING DEPTHS ARE COMPACTED DEPTHS AND COURSES SHALL NOT EXCEED THE DEPTHS DEFINED IN THE STANDARD SPECIFICATIONS.
- SEE SHEETS QTPV1 AND PV1 FOR ADDITIONAL GUARDRAIL INFORMATION.
- SEE SHEET PV1 FOR BEAM GUARDRAIL TYPE 31 LOCATIONS AND GRADING LIMITS FOR BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL PADS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND PLANNING TO COORDINATE BEAM GUARDRAIL POST PLACEMENT BASED ON UTILITY LOCATES AND ANY KNOWN OBSTRUCTIONS.
- DEPTH VARIES WITH PROFILE. WHEN THE CONTRACTOR ENCOUNTERS EXISTING PCCP PANELS DURING ROADWAY EXCAVATION THEY SHALL BE REMOVED, AND BACK FILLED WITH SELECT BORROW INCL. HAUL UP TO THE CRUSHED SURFACING BASE COURSE LAYER. REMOVAL OF PCCP PANELS SHALL BE PAID WITH THE BID ITEM ROADWAY EXCAVATION INCL. HAUL.
- EXISTING GROUND SHOWN IS FOR INFORMATIONAL USE ONLY. IT IS INTENDED TO INDICATE THE GROUND ENCOUNTERED AFTER STRUCTURE EXCAVATION AND SHORING /OVER EXCAVATION IS COMPLETED. THE ACTUAL LOCATION OF EXISTING GROUND MAY VARY DEPENDING ON SHORING /OVER EXCAVATION METHODS USED.
- SEE SHEET PV1 FOR THE PAVING LIMITS. LOCATIONS OF PLANING SECTIONS SHOWN ON SHEET PV1 TO BE PAID WITH THE BID ITEM PLANING BITUMINOUS PAVEMENT.

FILE NAME T:\412354\XL6093_SR542_Squalicum_to_Bham\CAEI\ContractPlans\XL6093_050_PS_RS.dgn										REGION NO.		STATE		FED.AID PROJ.NO.		<div></div>		<div></div> <div>Washington State Department of Transportation</div>		<div>SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE</div>		Plot 7	
TIME 9:56:52 AM								PLAN REF NO		RS7													
DATE 1/9/2023								10		WASH		JOB NUMBER 22A033		LOCATION NO.		SEE SHEET CT1 DATE		P.E. STAMP BOX		SHEET 13 OF 95 SHEETS			
PLOTTED BY zakersr								CONTRACT NO.															
DESIGNED BY R. ZAKERSKI																							
ENTERED BY R. ZAKERSKI																							
CHECKED BY A. GOO																							
PROJ. ENGR. M. AMBLER																							
REGIONAL ADM. B. NIELSEN				REVISION		DATE		BY															



NAD 83(11)

GENERAL NOTES:

1. IN ACCORDANCE WITH RCW 58.09.130, ANY MONUMENT OR CORNER NOT SPECIFICALLY PART OF THIS CONTRACT THAT IS DISTURBED BY THE CONTRACTOR'S OPERATION SHALL BE REPLACED AT NO COST TO THE CONTRACTING AGENCY. THE CONTRACT DOES NOT PLAN FOR ANY MONUMENTS OR CORNER MARKERS TO BE DISTURBED.
2. THE DISTANCES SHOWN ARE GROUND DISTANCES IN U.S. SURVEY FEET UNLESS OTHERWISE NOTED. TO OBTAIN THE GRID DISTANCES, MULTIPLY THE GROUND DISTANCE BY THE COMBINED FACTOR OF 1.000001278.
3. ALL COORDINATE VALUES SHOWN ARE IN PROJECT DATUM.
4. SEE SHEET AL2 FOR SQ ALIGNMENT.

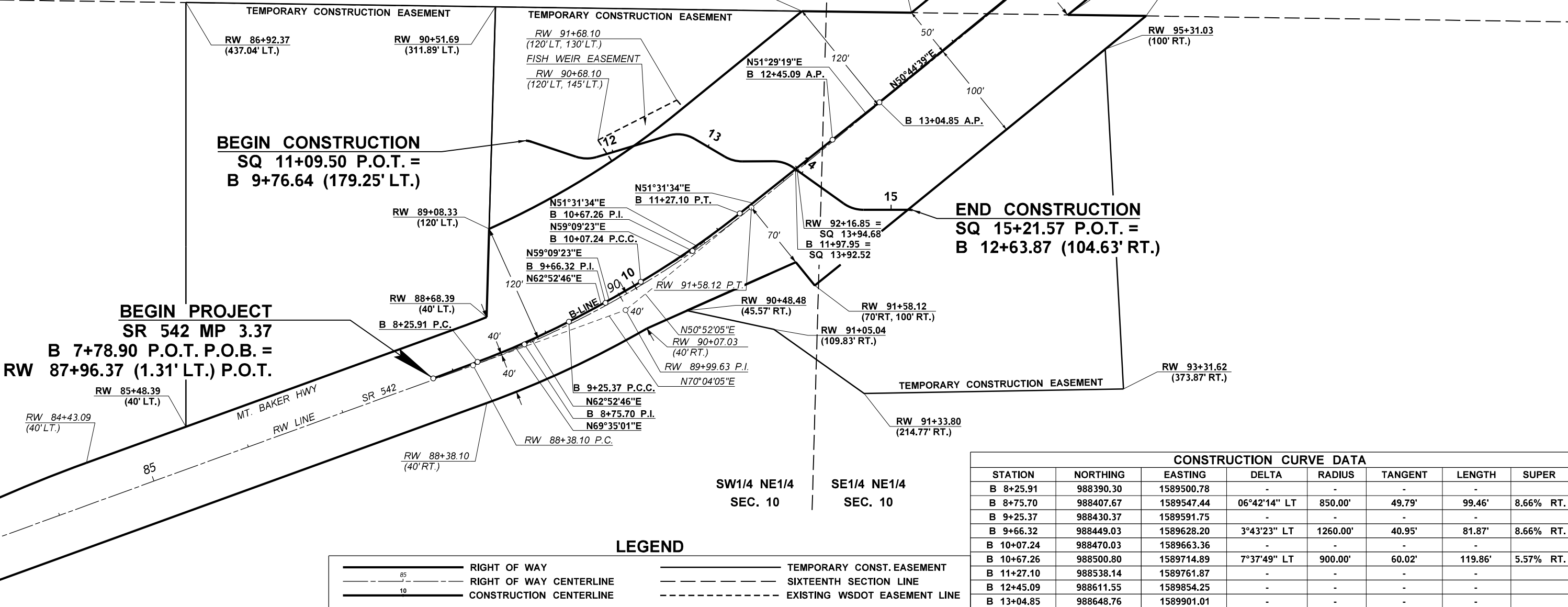
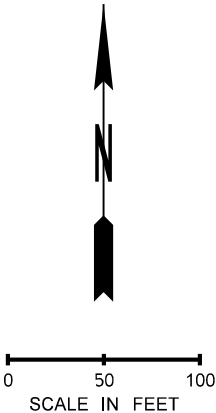
T.38N. R.10E. W.M. SEC. 10

RIGHT OF WAY CURVE DATA						
STATION	NORTHING	EASTING	DELTA	RADIUS	TANGENT	LENGTH
RW 81+36.73	988147.80	1588837.04	-	-	-	-
RW 88+38.10	988386.90	1589496.40	-	-	-	-
RW 89+99.63	988441.96	1589648.25	19°12'00" LT	955.00'	161.53'	320.02'
RW 91+58.12	988543.90	1589773.54	-	-	-	-

END PROJECT  
SR 542 MP 3.52  
B 15+95.00 P.O.T. =  
RW 96+13.32 (1.53' LT.) P.O.T.

NW1/4 NE1/4  
SEC. 10

NE1/4 NE1/4  
SEC. 10



CONSTRUCTION CURVE DATA							
STATION	NORTHING	EASTING	DELTA	RADIUS	TANGENT	LENGTH	SUPER
B 8+25.91	988390.30	1589500.78	-	-	-	-	-
B 8+75.70	988407.67	1589547.44	06°42'14" LT	850.00'	49.79'	99.46'	8.66% RT.
B 9+25.37	988430.37	1589591.75	-	-	-	-	-
B 9+66.32	988449.03	1589628.20	3°43'23" LT	1260.00'	40.95'	81.87'	8.66% RT.
B 10+07.24	988470.03	1589663.36	-	-	-	-	-
B 10+67.26	988500.80	1589714.89	7°37'49" LT	900.00'	60.02'	119.86'	5.57% RT.
B 11+27.10	988538.14	1589761.87	-	-	-	-	-
B 12+45.09	988611.55	1589854.25	-	-	-	-	-
B 13+04.85	988648.76	1589901.01	-	-	-	-	-

FILE NAME	T:\412354\XL6093_SR542_Squalicum_to_Bham\CAE\ContractPlans\XL6093_080_PS_AL.dgn			REGION NO.	STATE	FED.AID PROJ.NO.		SEE SHEET CT1 DATE	P.E. STAMP BOX		SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE	Plot 1
TIME	9:50:18 AM			10	WASH	AL1						
DATE	12/27/2022			JOB NUMBER	22A033	SHEET 14 OF 95 SHEETS						
PLOTTED BY	zakersr			CONTRACT NO.	22A033	ALIGNMENT AND RIGHT OF WAY PLAN						
DESIGNED BY	R. ZAKERSKI			LOCATION NO.								
ENTERED BY	R. ZAKERSKI											
CHECKED BY	A. GOO											
PROJ. ENGR.	M. AMBLER											
REGIONAL ADM.	B. NIELSEN			REVISION	DATE	BY						



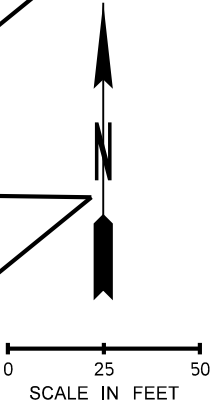


GENERAL NOTES:

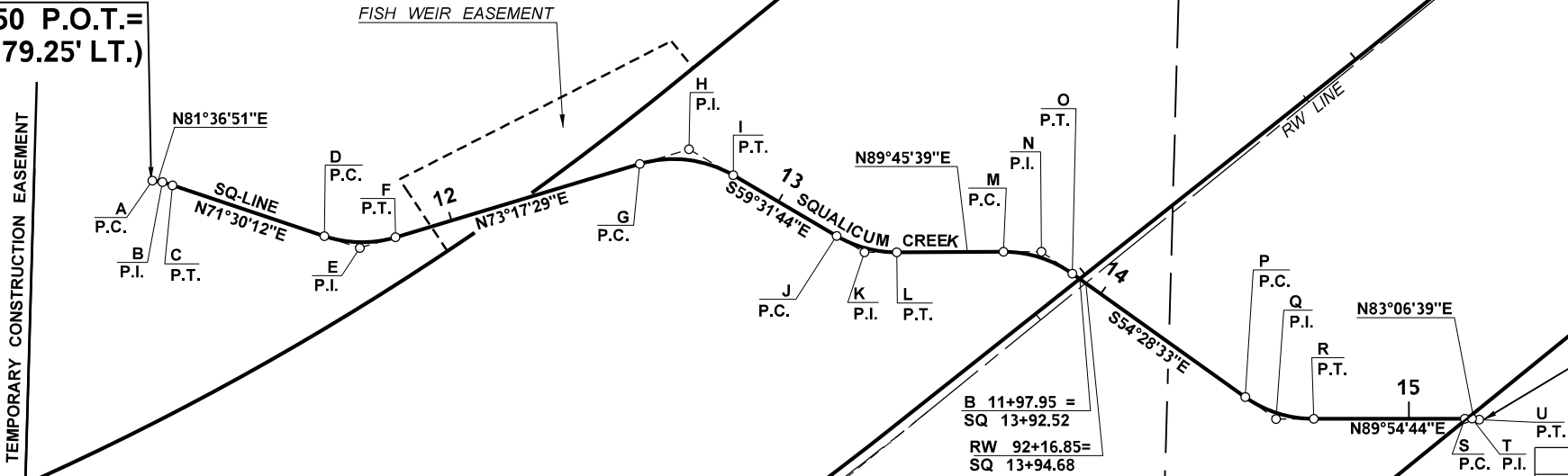
1. IN ACCORDANCE WITH RCW 58.09.130, ANY MONUMENT OR CORNER NOT SPECIFICALLY PART OF THIS CONTRACT THAT IS DISTURBED BY THE CONTRACTOR'S OPERATION SHALL BE REPLACED AT NO COST TO THE CONTRACTING AGENCY. THE CONTRACT DOES NOT PLAN FOR ANY MONUMENTS OR CORNER MARKERS TO BE DISTURBED.
2. THE DISTANCES SHOWN ARE GROUND DISTANCES IN U.S. SURVEY FEET UNLESS OTHERWISE NOTED. TO OBTAIN THE GRID DISTANCES, MULTIPLY THE GROUND DISTANCE BY THE COMBINED FACTOR OF 1.000001278.
3. ALL COORDINATE VALUES SHOWN ARE IN PROJECT DATUM.

T.38N. R.10E. W.M. SEC. 10

END PROJECT  
SR 542 MP 3.52  
B 15+95.00 P.O.T.  
RW 96+13.32 (1.53' LT.) P.O.T.



BEGIN CONSTRUCTION  
SQ 11+09.50 P.O.T.=  
B 9+76.64 (179.25' LT.)



END CONSTRUCTION  
SQ 15+21.57 P.O.T.=  
B 12+63.87 (104.63' RT.)

BEGIN PROJECT  
SR 542 MP 3.37  
B 7+78.90 P.O.T. P.O.B. =  
RW 87+96.37 (1.31' LT.) P.O.T.

STREAM ALIGNMENT DATA							
POINT	STATION	NORTHING	EASTING	DELTA	RADIUS	TANGENT	LENGTH
A	SQ 11+09.85	988610.69	1589549.10	-	-	-	-
B	SQ 11+12.86	988610.25	1589552.08	10°06'39" RT	34.00'	3.01'	6.00'
C	SQ 11+15.85	988609.30	1589554.93	-	-	-	-
D	SQ 11+62.18	988594.60	1589598.87	-	-	-	-
E	SQ 11+72.97	988591.18	1589609.10	35°12'20" LT	34.00'	10.79'	20.89'
F	SQ 11+83.07	988594.28	1589619.43	-	-	-	-
G	SQ 12+56.86	988615.50	1589690.11	-	-	-	-
H	SQ 12+71.71	988619.76	1589704.33	47°10'47" RT	34.00'	14.85'	28.00'
I	SQ 12+84.86	988612.24	1589717.12	-	-	-	-
J	SQ 13+19.56	988594.64	1589747.03	-	-	-	-
K	SQ 13+28.90	988589.90	1589755.08	30°42'36" LT	34.00'	9.34'	18.22'
L	SQ 13+37.79	988589.94	1589764.42	-	-	-	-
M	SQ 13+68.68	988590.07	1589795.31	-	-	-	-
N	SQ 13+79.65	988590.12	1589806.28	35°45'47" RT	34.00'	10.97'	21.22'
O	SQ 13+89.90	988583.74	1589815.21	-	-	-	-
P	SQ 14+51.38	988548.02	1589865.24	-	-	-	-
Q	SQ 14+62.30	988541.68	1589874.13	35°36'43" LT	34.00'	10.92'	21.13'
R	SQ 14+72.51	988541.69	1589885.05	-	-	-	-
S	SQ 15+16.22	988541.76	1589929.75	-	-	-	-
T	SQ 15+18.29	988541.76	1589931.83	06°58'37" RT	34.00	2.07'	4.14'
U	SQ 15+20.36	988541.52	1589933.88	-	-	-	-

LEGEND

- RIGHT OF WAY
- RIGHT OF WAY CENTERLINE
- CONSTRUCTION CENTERLINE
- TEMPORARY CONST. EASEMENT
- SIXTEENTH SECTION LINE
- EXISTING WSDOT EASEMENT LINE

FILE NAME	T:\412354\XL6093_SR542_Squalicum_to_Bham\CAE\ContractPlans\XL6093_080_PS_AL.dgn			REGION NO.	STATE	FED.AID PROJ.NO.			SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE	Plot 2
TIME	9:50:30 AM			10	WASH	PLAN REF NO				
DATE	12/27/2022			JOB NUMBER	22A033	AL2				
PLOTTED BY	zakersr			CONTRACT NO.	LOCATION NO.	SHEET 15 OF 95 SHEETS				
DESIGNED BY	R. ZAKERSKI									
ENTERED BY	R. ZAKERSKI									
CHECKED BY	A. GOO									
PROJ. ENGR.	M. AMBLER									
REGIONAL ADM.	B. NIELSEN			REVISION	DATE	BY	P.E. STAMP BOX	DATE	P.E. STAMP BOX	ALIGNMENT AND RIGHT OF WAY PLAN

QUANTITY TABULATION - SITE PREPARATION									
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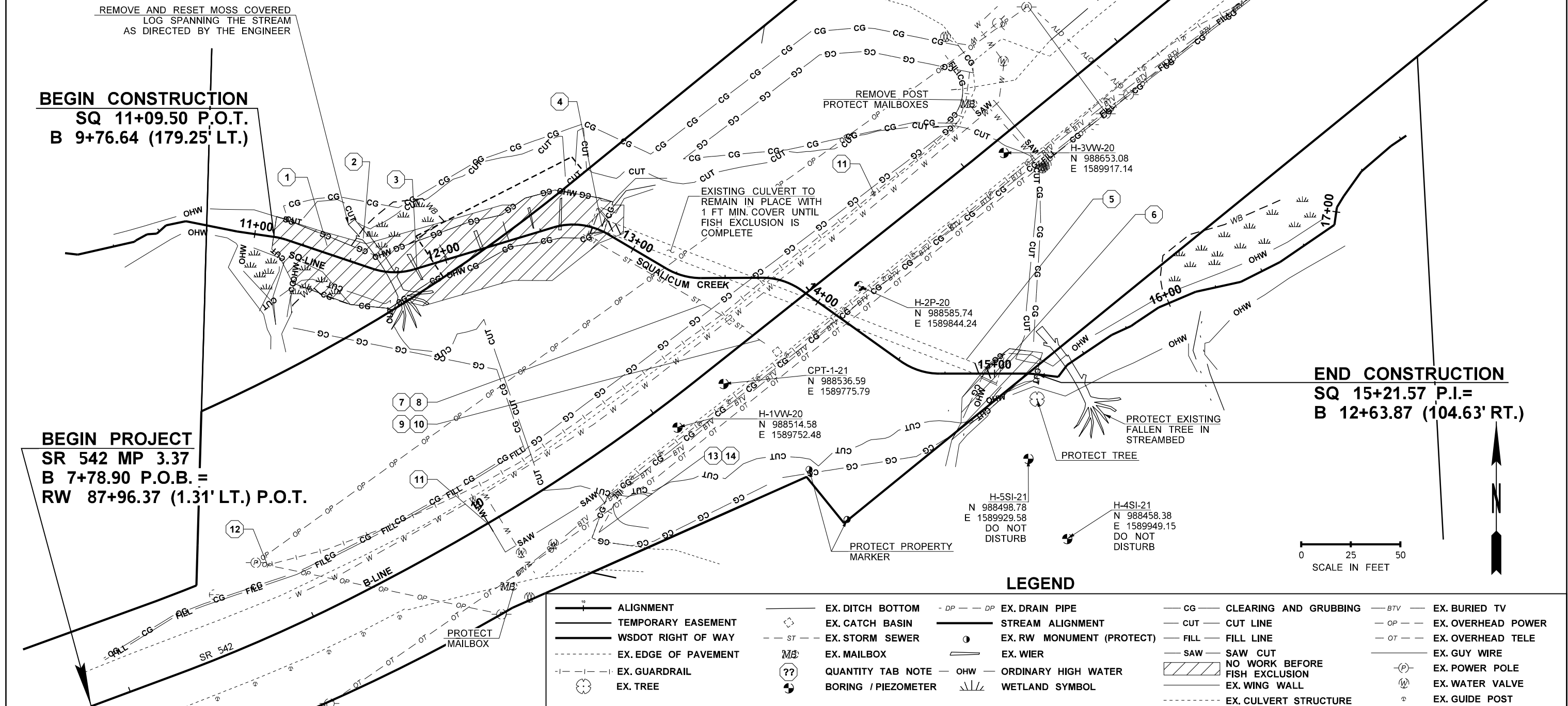
<p>NOTE: THE FIRST NUMBER OF THE "CODE" BELOW REFERS TO THE SHEET NO. OR THE SHEET REFERENCE NO. SHOWING THE CONSTRUCTION FEATURE.</p> <p>THE SECOND NUMBER REFERS TO THE CONSTRUCTION FEATURE FOUND ON THAT SHEET.</p>	3 IN. METAL PIPE (FOR INFORMATION ONLY)			REMOVING WEIRS (FOR INFORMATION ONLY)	REMOVING CONC. APRON, WING WALLS AND HEADWALL (FOR INFORMATION ONLY)	REMOVING 6FTX6FT CONC. CULVERT (FOR INFORMATION ONLY)	REMOVE COB 10 IN. DUCTILE IRON PIPE WATERMAIN (FOR INFORMATION ONLY)	REMOVING CMP PIPE (FOR INFORMATION ONLY)	REMOVING CATCH BASIN AND INLET (FOR INFORMATION ONLY)	REMOVING EXISTING STORM PIPE 12 IN. (FOR INFORMATION ONLY)			REMOVING GUARDRAIL	REMOVING GUARDRAIL ANCHOR		REMOVING GUIDE POST	REMOVING RASIED PAVEMENT MARKER	SEE GENERAL NOTES	GENERAL NOTES:
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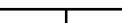
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						REGION NO.	STATE	FED. AID PROJ. NO.			SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE	QTSP 1
DESIGNED BY	R. ZAKERSKI					10	WASH					
ENTERED BY	R. ZAKERSKI											SHEET
CHECKED BY	A. GOO											16
PROJ. ENGR.	M. AMBLER											OF
REGION ADM.	B. NIELSEN											95
		DATE	DATE	REVISION	BY						QUANTITY TABULATION - SITE PREPARATION	SHEETS

1. FOR HIGH VISIBILITY FENCE (HVF) AND HIGH VISIBILITY SILT FENCE (HVS) LOCATIONS SEE SHEETS EC1 AND ECN1.
2. SEE SHEET UT1 FOR UTILITY INFORMATION.
3. SEE SPECIAL PROVISIONS "REMOVAL OF STRUCTURES AND OBSTRUCTIONS".
4. SEE SHEET AL1 - AL2 FOR TEMPORARY EASEMENT AND RIGHT OF WAY INFORMATION.

END PROJECT  
SR 542 MP 3.52  
B 15+95.00 P.O.T.  
RW 96+13.32 (1.53' LT.) P.O.T.



FILE NAME T:\412354\XL6093_SR542_Squalicum_to_Bham\CAE\ContractPlans\XL6093_100_PS_SP.dgn										Plot 1					
TIME 10:14:08 AM						REGION NO.		STATE		FED.AID PROJ.NO.					
DATE 12/27/2022						10		WASH							
PLOTTED BY zakersr						JOB NUMBER									
DESIGNED BY R. ZAKERSKI						22A033									
ENTERED BY R. ZAKERSKI						CONTRACT NO.				LOCATION NO.					
CHECKED BY A. GOO															
PROJ. ENGR. M. AMBLER															
REGIONAL ADM. B. NIELSEN		REVISION		DATE		BY									
<div><div></div><div><div>DATE</div><div>P.E. STAMP BOX</div></div></div> <div><div></div><div><div>DATE</div><div>P.E. STAMP BOX</div></div></div>										<div><div></div><div>Washington State Department of Transportation</div></div>		<div>SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE</div>		PLAN REF NO SP1	
										SHEET 17 OF 95 SHEETS					
SITE PREPARATION PLAN															







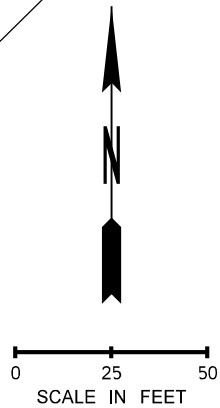




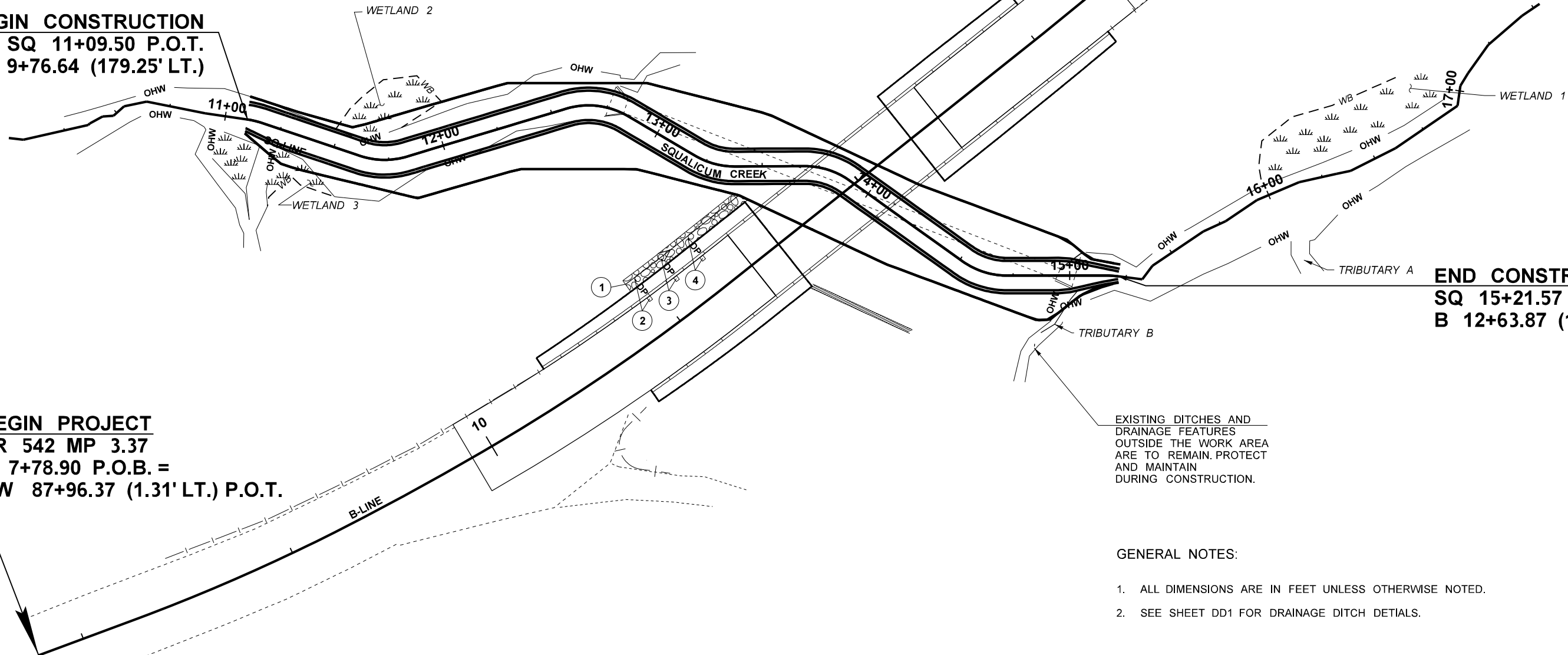
## LEGEND

	WSDOT RIGHT OF WAY		EXISTING CULVERT
	TEMPORARY EASEMENT		EXISTING WINGWALL
	WSDOT EXISTING EASEMENT		BACK OF PAVEMENT SEAT
	ROADWAY ALIGNMENT		CONCRETE BARRIER
	STREAM ALIGNMENT		SHOTCRETE WALL
	STREAMBED GRADE BREAK		SHEET PILE
	WETLAND BOUNDARY		GUARDRAIL
	WETLAND SYMBOL		PAVED EDGE
	ORDINARY HIGH WATER LINE		EXISTING EDGE OF PAVEMENT
	DRAIN PIPE		DRAINAGE SCUPPER
	DITCH		QUARRY SPALLS
	EXISTING DITCH		DRAINAGE STRUCTURE NOTE

**END PROJECT**  
**SR 542 MP 3.52**  
**B 15+95.00 P.O.T.**  
**RW 96+13.32 (1.53' LT.) P.O.T.**



**BEGIN CONSTRUCTION**  
**SQ 11+09.50 P.O.T.**  
**B 9+76.64 (179.25' LT.)**

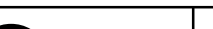
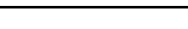


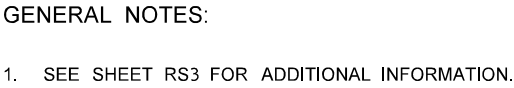
**BEGIN PROJECT**  
**SR 542 MP 3.37**  
**B 7+78.90 P.O.B. =**  
**\RW 87+96.37 (1.31' LT.) P.O.T.**



**END CONSTRUCTION**  
**SQ 15+21.57 P.I.=**  
**B 12+63.87 (104.63' RT.)**

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.
2. SEE SHEET DD1 FOR DRAINAGE DITCH DETIALS.

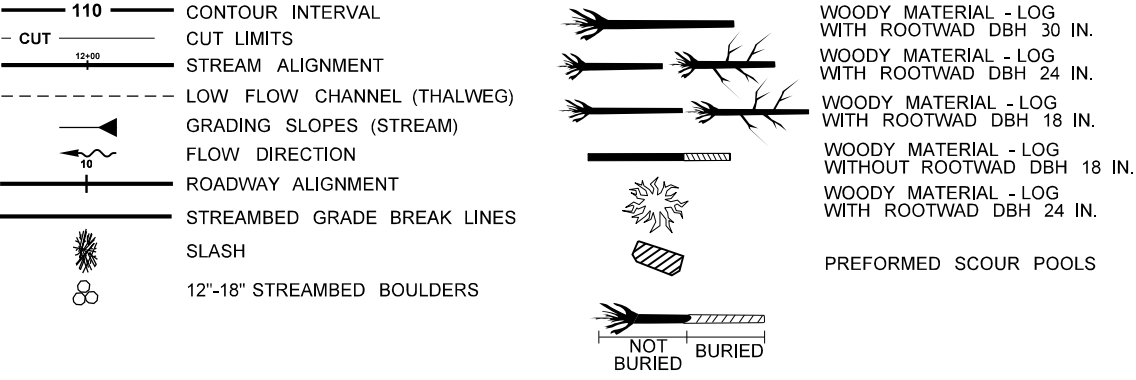
FILE NAME T:\412354\XL6093_SR542_Squalicum_to_Bham\CAE\ContractPlans\XL6093_150_PS_DR_DD.dgn														Plot 1 PLAN REF NO <b>DP1</b>	
TIME	7:03:38 AM				REGION NO.	STATE	FED.AID PROJ.NO.								
DATE	1/10/2023				10	WASH									
PLOTTED BY	zakersr				JOB NUMBER		22A033								
DESIGNED BY	R. ZAKERSKI				CONTRACT NO.		LOCATION NO.								
ENTERED BY	R. ZAKERSKI														
CHECKED BY	A. GOO														
PROJ. ENGR.	M. AMBLER														
REGIONAL ADM.	B. NIELSEN														
REVISION				DATE	BY										
P.E. STAMP BOX _____ DATE _____										SEE SHEET CT1 DATE _____		SHEET 22 OF 95 SHEETS			
										SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE DRAINAGE PLAN					



FILE NAME T:\412354\XL6093_SR542_Squalicum_to_Bham\CAIContractPlans\XL6093_150_PS_DR_DD.dgn														SR 542		Plot 2
TIME 7:03:48 AM					REGION NO.	STATE	FED.AID PROJ.NO.				PLAN REF NO					
DATE 1/10/2023					10	WASH			DD1							
PLOTTED BY zakersr					JOB NUMBER											
DESIGNED BY R. ZAKERSKI					22A033						SHEET					
ENTERED BY R. ZAKERSKI					CONTRACT NO.		LOCATION NO.				23					
CHECKED BY A. GOO											OF					
PROJ. ENGR. M. AMBLER											95					
REGIONAL ADM. B. NIELSEN		REVISION		DATE	BY							SHEETS				



LEGEND



TRANSITION TO MATCH EXISTING CHANNEL  
SQ-LINE 11+09.50 TO SQ-LINE 11+83.10

BEGIN CHANNEL GRADING  
SQ-LINE 11+09.50

TRANSITION TO MATCH EXISTING CHANNEL  
SQ-LINE 14+85.00 TO SQ-LINE 15+21.57

END CHANNEL GRADING  
SQ-LINE 15+21.57

GENERAL NOTES:

1. SEE SPECIAL PROVISIONS "WATER CROSSINGS". FINAL INSTALLATION WILL PROVIDE A WELL GRADED MIX OF STREAMBED SEDIMENTS AND STREAMBED COBBLES.
2. THIS SHEET SPECIFIES WORK WITHIN THE STREAMBED GRADE BREAK LINES BOUNDED BY THE MIN. HYDRAULIC OPENING WIDTH OF 38 FEET (SEE SHEET SD1) FOR SQUALICUM CREEK (SQ LINE).
3. LOCATIONS AND ORIENTATIONS OF LARGE WOODY MATERIAL (LWM) STRUCTURES AND PERFORMED SCOUR POOLS AS SHOWN ON THIS SHEET ARE APPROXIMATE. THEY SHALL BE STAKED PER PLAN WITH FINAL LOCATIONS AND ORIENTATIONS AS DIRECTED BY THE ENGINEER.
4. SEE SHEET SC2 FOR LARGE WOODY MATERIAL (LWM) AND BRANCH INFORMATION.

FILE NAME	T:\412354\XL6093_SR542_Squalicum_to_Bham\CAE\ContractPlans\XL6093_151_PS_SC.dgn
TIME	2:40:30 PM
DATE	1/10/2023
PLOTTED BY	zakersr
DESIGNED BY	R. ZAKERSKI
ENTERED BY	R. ZAKERSKI
CHECKED BY	A. GOO
PROJ. ENGR.	M. AMBLER
REGIONAL ADM.	B. NIELSEN
REVISION	DATE BY

REGION NO.  
10  
STATE  
WASH  
JOB NUMBER  
22A033  
CONTRACT NO.

FED.AID PROJ.NO.  
LOCATION NO.



SEE SHEET CT1  
DATE

P.E. STAMP BOX



SR 542  
SQUALICUM CRK TO BELLINGHAM BAY  
FISH PASSAGE  
STREAM PLAN

Plot 1  
PLAN REF NO  
SC1  
SHEET  
24  
OF  
95  
SHEETS

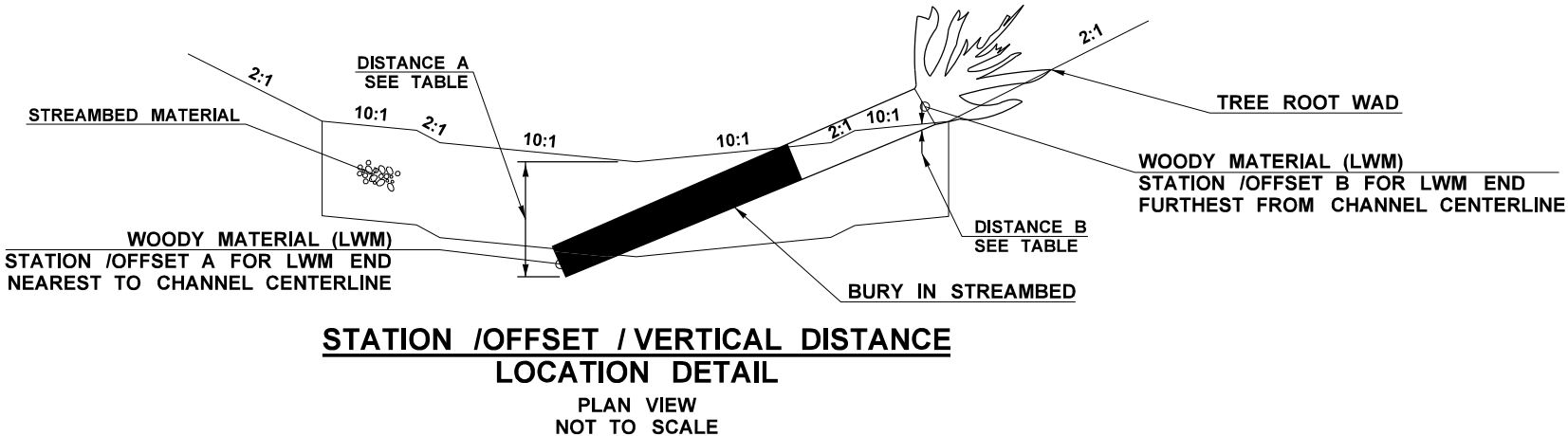
LWM NO.	BRANCHES (YES/NO)	DBH (MIN.)	LENGTH (MIN.) (SEE NOTE 6)	ROOT WAD DIAMETER	STATION/OFFSET A - LWM END NEAREST CHANNEL CENTERLINE (SEE STATION/OFFSET LOCATION DETAIL) (IF LWM IS ALONG CHANNEL CENTERLINE, ROOTWAD IS POINT A)	DISTANCE A - VERTICAL DISTANCE BETWEEN BOTTOM OF LWM AND FINISHED GRADE	STATION/OFFSET B - LWM END FURTHEST FROM CHANNEL CENTERLINE (SEE STATION/OFFSET LOCATION DETAIL)	DISTANCE B - VERTICAL DISTANCE BETWEEN BOTTOM OF LWM AND FINISHED GRADE
1	NO	30 IN	40 FT	90 IN	11+19 (12.0' LT)	7.0 FT	11+17 (24.0' RT)	0.0 FT
2	NO	24 IN	30 FT	72 IN	11+32 (0.5' RT)	0.7 FT	11+59 (0.5' RT)	6.3 FT
3	NO	30 IN	40 FT	90 IN	11+58 (2.0' RT)	4.4 FT	11+40 (33.5' RT)	0.0 FT
4	NO	18 IN	30 FT	54 IN	11+51 (1.0' RT)	2.8 FT	11+51 (26.0' LT)	0.5 FT
5	NO	18 IN	30 FT	54 IN	11+68 (7.0' LT)	4.7 FT	11+70 (8.0' LT)	0 FT
6	NO	24 IN	15 FT	72 IN	11+68 (7.0' RT)	13.5 FT	N/A (VERTICAL)	N/A
7	NO	18 IN	30 FT	54 IN	11+56 (9.0' LT)	5.0 FT	11+68 (14.5' RT)	0 FT
8	NO	30 IN	40 FT	90 IN	11+71 (13.5' LT)	1.0 FT	11+85 (20.5' RT)	8.3 FT
9	NO	24 IN	30 FT	72 IN	11+71 (9.0' RT)	0.5 FT	11+66 (35.5' RT)	3.2 FT
10	NO	24 IN	30 FT	72 IN	11+77 (0.0' RT)	3.5 FT	11+74 (26.0' RT)	0.0 FT
11	YES	18 IN	30 FT	54 IN	12+15 (0.5' LT)	3.2 FT	11+95 (22.5' LT)	0.0 FT
12	YES	24 IN	30 FT	72 IN	11+89 (5.5' RT)	1.0 FT	11+74 (22.5' RT)	6.0 FT
13	NO	24 IN	30 FT	72 IN	11+96 (11.5' LT)	0.5 FT	11+60 (16.0' LT)	4.5 FT
14	NO	24 IN	30 FT	72 IN	12+07 (0.5' LT)	1.5 FT	11+81 (0.5' LT)	5.8 FT
15	NO	18 IN	30 FT	54 IN	11+93 (2.5' RT)	3.6 FT	12+14 (19.0' RT)	0.0 FT
16	NO	30 IN	40 FT	90 IN	12+13 (0.5' RT)	2.5 FT	12+41 (22.0' LT)	0.0 FT
17	YES	18 IN	30 FT	54 IN	12+51 (4.5' RT)	2.4 FT	12+27 (18.0' RT)	0.0 FT
18	NO	24 IN	30 FT	72 IN	12+39 (0.5' RT)	0.7 FT	12+65 (0.5' RT)	6.3 FT
19	YES	18 IN	30 FT	54 IN	12+20 (5.0' RT)	3.6 FT	12+45 (16.0' RT)	0.0 FT
20	NO	24 IN	30 FT	72 IN	12+49 (9.0' LT)	0.5 FT	12+26 (22.0' LT)	5.5 FT
21	NO	18 IN	30 FT	54 IN	12+65 (6.5' RT)	4.3 FT	12+54 (19.0' LT)	0.0 FT
22	NO	24 IN	15 FT	72 IN	12+63 (6.5' LT)	13.5 FT	N/A (VERTICAL)	N/A
23	NO	18 IN	30 FT	54 IN	12+48 (1.0' RT)	6.0 FT	12+64 (18.0' LT)	0.0 FT
24	NO	30 IN	40 FT	90 IN	12+70 (17.0' RT)	1.0 FT	12+80 (18.0' LT)	8.3 FT
25	NO	24 IN	30 FT	72 IN	12+70 (4.0' LT)	0.8 FT	12+55 (12.5' LT)	6.0 FT
26	NO	24 IN	30 FT	72 IN	12+73 (2.0' RT)	3.5 FT	12+70 (24.0' LT)	0.0 FT
27	NO	24 IN	30 FT	72 IN	12+97 (9.5' RT)	0.5 FT	12+59 (16.5' RT)	4.7 FT
28	NO	24 IN	30 FT	72 IN	12+82 (4.5' LT)	1.0 FT	12+70 (25.5' LT)	6.0 FT
29	NO	24 IN	30 FT	72 IN	12+97 (0.5' RT)	0.7 FT	13+23 (0.5' RT)	6.3 FT
30	NO	18 IN	30 FT	54 IN	13+12 (1.5' LT)	2.4 FT	12+91 (18.5' LT)	0.0 FT



LWM NO.	BRANCHES (YES/NO)	DBH (MIN.)	LENGTH (MIN.) (SEE NOTE 6)	ROOT WAD DIAMETER	STATION/OFFSET A - LWM END NEAREST CHANNEL CENTERLINE (SEE STATION/OFFSET LOCATION DETAIL) (IF LWM IS ALONG CHANNEL CENTERLINE, ROOTWAD IS POINT A)	DISTANCE A - VERTICAL DISTANCE BETWEEN BOTTOM OF LWM AND FINISHED GRADE	STATION/OFFSET B - LWM END FURTHEST FROM CHANNEL CENTERLINE (SEE STATION/OFFSET LOCATION DETAIL)	DISTANCE B - VERTICAL DISTANCE BETWEEN BOTTOM OF LWM AND FINISHED GRADE
31	NO	18 IN	30 FT	54 IN	13+19 (4.2' LT)	4.3 FT	13+08 (20.5' RT)	0.0 FT
32	NO	18 IN	30 FT	54 IN	12+85 (7.5' LT)	3.6 FT	13+10 (17.5' LT)	0.0 FT
33	NO	18 IN	30 FT	54 IN	13+09 (2.5' LT)	6.0 FT	13+25 (17.0' LT)	0.0 FT
34	NO	24 IN	15 FT	72 IN	13+25 (7.0' RT)	13.5 FT	N/A (VERTICAL)	N/A
35	NO	30 IN	40 FT	90 IN	13+41 (12.5' RT)	6.5 FT	13+20 (21.0' LT)	0.0 FT
36	NO	24 IN	30 FT	72 IN	13+32 (5.5' RT)	0.8 FT	13+14 (21.0' RT)	6.0 FT
37	NO	24 IN	30 FT	72 IN	13+38 (2.5' RT)	3.5 FT	13+31 (26.5' RT)	0.0 FT
38	NO	24 IN	30 FT	72 IN	13+44 (7.5' RT)	1.0 FT	13+31 (27.5' RT)	6.0 FT
39	YES	24 IN	30 FT	72 IN	13+53 (10.0' LT)	0.5 FT	13+18 (16.5' LT)	4.5 FT
40	NO	18 IN	30 FT	-	13+55 (14.0' LT)	5.5 FT	13+65 (16.0' RT)	0.0 FT
41	NO	18 IN	30 FT	-	13+65 (11.5' RT)	4.5 FT	13+64 (18.5' LT)	0.0 FT
42	NO	18 IN	30 FT	-	13+74 (14.5' RT)	5.0 FT	13+72 (15.5' LT)	1.5 FT
43	NO	18 IN	30 FT	-	13+80 (12.5' LT)	0.0 FT	13+84 (17.5' RT)	6.5 FT
44	NO	18 IN	30 FT	-	13+96 (4.0' LT)	1.5 FT	13+90 (25.0' RT)	5.0 FT
45	NO	18 IN	30 FT	-	14+12 (4.0' LT)	1.5 FT	14+26 (22.0' RT)	4.0 FT
46	NO	24 IN	30 FT	72 IN	14+22 (0.5' RT)	0.7 FT	14+48 (0.5' RT)	6.3 FT
47	NO	18 IN	30 FT	54 IN	14+44 (1.5' LT)	2.4 FT	14+22 (17.0' LT)	0.0 FT
48	NO	24 IN	30 FT	72 IN	14+43 (8.0' RT)	0.5 FT	14+20 (20.0' RT)	5.5 FT
49	NO	18 IN	30 FT	54 IN	14+56 (1.0' LT)	4.3 FT	14+44 (23.0' RT)	0.0 FT
50	NO	18 IN	30 FT	54 IN	14+16 (6.0' LT)	3.6 FT	14+41 (17.0' LT)	0.0 FT
51	NO	24 IN	15 FT	72 IN	14+57 (6.5' RT)	13.5 FT	N/A (VERTICAL)	N/A
52	NO	18 IN	30 FT	54 IN	14+40 (2.0' LT)	6.0 FT	14+58 (17.0' RT)	0.0 FT
53	NO	24 IN	30 FT	72 IN	14+64 (5.0' RT)	0.8 FT	14+47 (21.5' RT)	6.0 FT
54	NO	24 IN	30 FT	72 IN	14+65 (0.5' LT)	3.5 FT	14+64 (26.0' RT)	0.0 FT
55	NO	30 IN	40 FT	90 IN	14+70 (10.0' RT)	6.5 FT	14+50 (23.5' LT)	0.0 FT
56	NO	24 IN	30 FT	72 IN	14+75 (6.0' RT)	1.0 FT	14+64 (26.5' RT)	6.0 FT
57	YES	24 IN	30 FT	72 IN	14+85 (10.5' LT)	0.5 FT	14+50 (15.0' LT)	4.5 FT
58	NO	24 IN	30 FT	72 IN	14+96 (0.5' LT)	1.5 FT	14+70 (0.5' LT)	5.8 FT
59	NO	30 IN	40 FT	90 IN	15+05 (7.5' LT)	2.0 FT	15+14 (42.5' LT)	1.0 FT

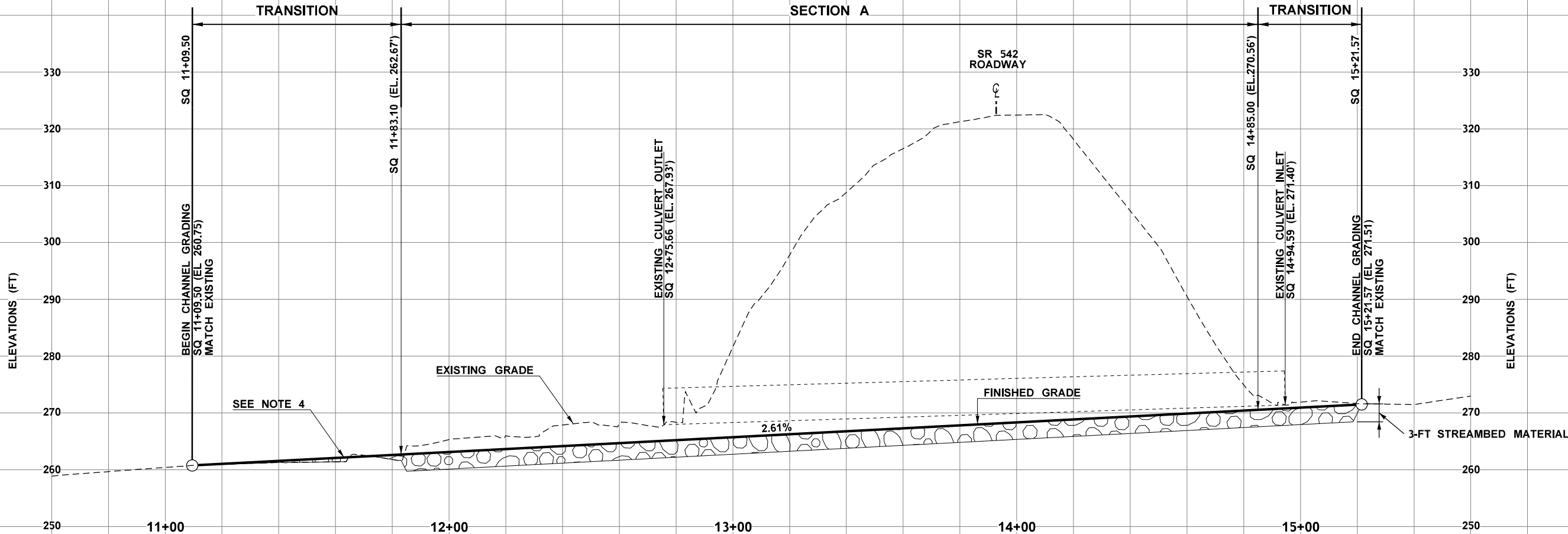
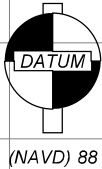
GENERAL NOTES:

5.
- LOCATIONS AND ORIENTATIONS OF LARGE WOODY MATERIAL (LWM) STRUCTURES AS SHOWN ON THIS SHEET ARE APPROXIMATE.THEY SHALL BE STAKED PER PLAN WITH FINAL LOCATIONS AND ORIENTATIONS AS DIRECTED BY THE ENGINEER.
6.
- SEE SPECIAL PROVISION "WOODY MATERIAL" FOR DETAILS.
7.
- FOR VERTICAL DISTANCE OF LOWEST POINT OF LOG BOLE RELATIVE TO FINISHED GRADE: A POSITIVE VALUE INDICATES DISTANCE BELOW FINISHED GRADE.

\*DBH: DIAMETER AT BREAST HEIGHT



FILE NAME		T:\412354\XL6093_SR542_Squalicum_to_Bham\CAE\ContractPlans\XL6093_151_PS_SC.dgn																							
TIME		2:40:38 PM										REGION NO.		STATE		FED.AID PROJ.NO.		<div><div>SEE SHEET CT1 DATE P.E. STAMP BOX</div></div>		<div><div>Washington State Department of Transportation</div></div>		SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE		Plot 2	
1/10/2023								10		WASH		SC2													
PLOTTED BY		zakersr														SHEET 25 OF 95 SHEETS									
DESIGNED BY		R. ZAKERSKI																							
ENTERED BY		R. ZAKERSKI																							
CHECKED BY		A. GOO																							
PROJ. ENGR.		M. AMBLER																							
REGIONAL ADM.		B. NIELSEN																							
				REVISION				DATE				BY													



## SQ LINE PROFILE

	CHANNEL EXCAVATION INCL. HAUL = 21470 C.Y.	
	STREAMBED SEDIMENT = 1642 TONS	
	STREAMBED COBBLES 12 IN - SHEET TOTAL = 993 TONS	
	STREAMBED BOULDER TYPE ONE = 52 TONS	
BEGIN CHANNEL GRADING SQ 11+09.50	WOODY MATERIAL - WITH ROOTWAD (LWM) = (DBH/QTY) 30"/8, 24"/24, 18"/23 (EACH)	WOODY MATERIAL - WITHOUT ROOTWAD 18"/4 (EACH)
	SLASH = 16 CY	
	STREAMBED SAND = 261 TONS	
	END CHANNEL GRADING SQ 15+21.57	

### GENERAL NOTES:

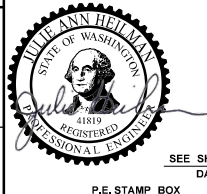
- SEE SPECIAL PROVISION "WATER CROSSINGS" FOR STREAMBED MATERIALS INCLUDING: FINE BANDS, ROCK BARBS, AND MEANDER BARS. FINAL INSTALLATION WILL PROVIDE A WELL GRADED MIX OF STREAMBED SEDIMENTS AND STREAMBED COBBLES.
- THIS SHEET SPECIFIES WORK WITHIN THE STREAMBED GRADE BREAK LINES BOUNDED BY THE MIN. HYDRAULIC OPENING WIDTH OF 38 FEET (SEE SHEET SD1), FOR SQUALICUM CREEK (SQ LINE).
- SEE SHEET SD1 FOR TYPICAL STREAMBED SECTION.
- FROM SQ STA 11+09.50 TO SQ STA 11+83.10 TRANSITION FROM SECTION A TO EXISTING. DEPTH OF STREAMBED MATERIAL IN THIS TRANSITION SHALL VARY BETWEEN 0 AND 3 FEET AS DIRECTED BY THE ENGINEER.

FILE NAME	T:\412354\XL6093_SR542_Squalicum_to_Bham\CAE\ContractPlans\XL6093_152_PS_SCP.dgn		
TIME	2:42:27 PM		
DATE	1/10/2023		
PLOTTED BY	zakersr		
DESIGNED BY	R. ZAKERSKI		
ENTERED BY	R. ZAKERSKI		
CHECKED BY	A. GOO		
PROJ. ENGR.	M. AMBLER		
REGIONAL ADM.	B. NIELSEN	REVISION	DATE BY

REGION NO.	STATE
10	WASH
JOB NUMBER	
22A033	
CONTRACT NO.	

FED.AID PROJ.NO.

LOCATION NO.



SEE SHEET CT1  
DATE

P.E. STAMP BOX



Washington State  
Department of Transportation

P.E. STAMP BOX

SR 542  
SQUALICUM CRK TO BELLINGHAM BAY  
FISH PASSAGE  
STREAM PROFILE

Plot 1  
PLAN REF. NO.  
SCP1  
SHEET  
26  
OF  
95  
SHEETS





# STRUCTURE NOTES - CITY OF BELLINGHAM WATER (UTB1516)

[illegible]

END PROJECT  
SR 542 MP 3.52  
B 15+95.00 P.O.T.  
RW 96+13.32 (1.53' LT.) P.O.T.

0 25 50  
SCALE IN FEET



BEGIN CONSTRUCTION  
SQ 11+09.50 P.O.T.  
B 9+76.64 (179.25' LT.)

END CONSTRUCTION  
SQ 15+21.57 P.I.=  
B 12+63.87 (104.63' RT.)

BEGIN PROJECT  
SR 542 MP 3.37  
B 7+78.90 P.O.B. =  
RW 87+96.37 (1.31' LT.) P.O.T.

GENERAL NOTES:

- 12 IN (O.D.) FLEXIBLE HDPE WATER LINE SHALL BE CASED THROUGH THE LOW DENSITY CELLULAR CONCRETE PIERS 1 & 2. PROVIDE PIPE INSULATORS EVERY 6 FT OR LESS AND WITHIN 6 IN OF EACH END OF CASING, BUT NOT TO EXCEED THE MINIMUM DISTANCE SPECIFIED BY THE MANUFACTURE. CASING SEALS SHALL BE INSTALLED AT EACH END OF CASING(S).
- PIPE DIAMETERS SPECIFY INSIDE DIAMETER (I.D.) OR OUTSIDE DIAMETER (O.D.). MINIMUM DEPTHS REFER TO TOP OF PIPE, NOT TOP OF CASING.
- FOR ADDITIONAL WATER LINE DETAILS, SEE SHEET UTD1.
- PSE OVERHEAD POWER CLEAR SAFETY MINIMUM:  
115KV TRANSMISSION LINES 20 FT.  
15 KV DISTRIBUTION LINES 10 FT.
- TEMPORARY WATER LINE SHALL NOT BE GROUND LAY WITHIN ORDINARY HIGH WATER LIMITS.
- CITY OF BELLINGHAM SHALL INSTALL RESTRAINING ROD IN THE CONTRACTOR INSTALLED REVERSE THRUST BLOCK.

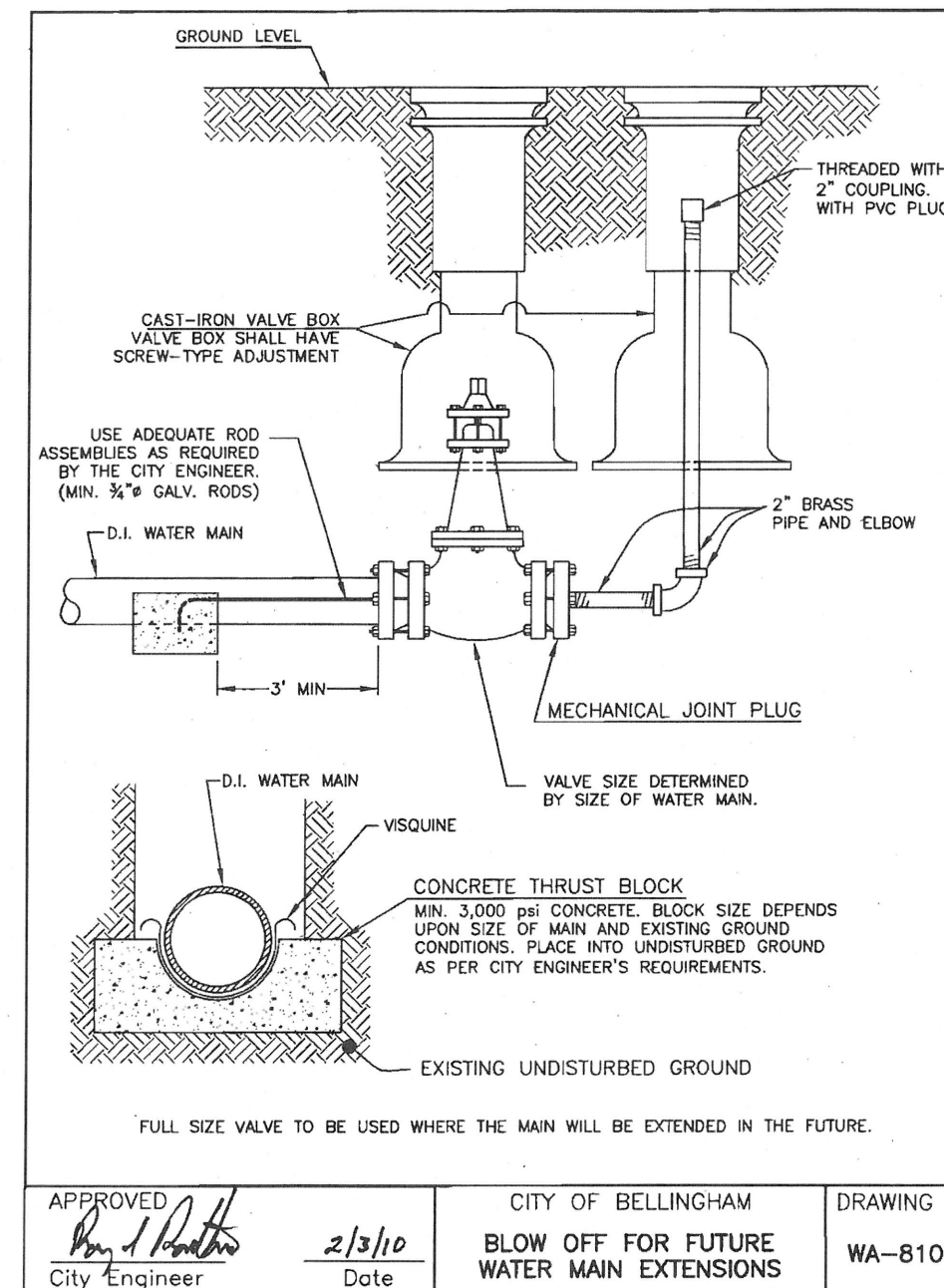
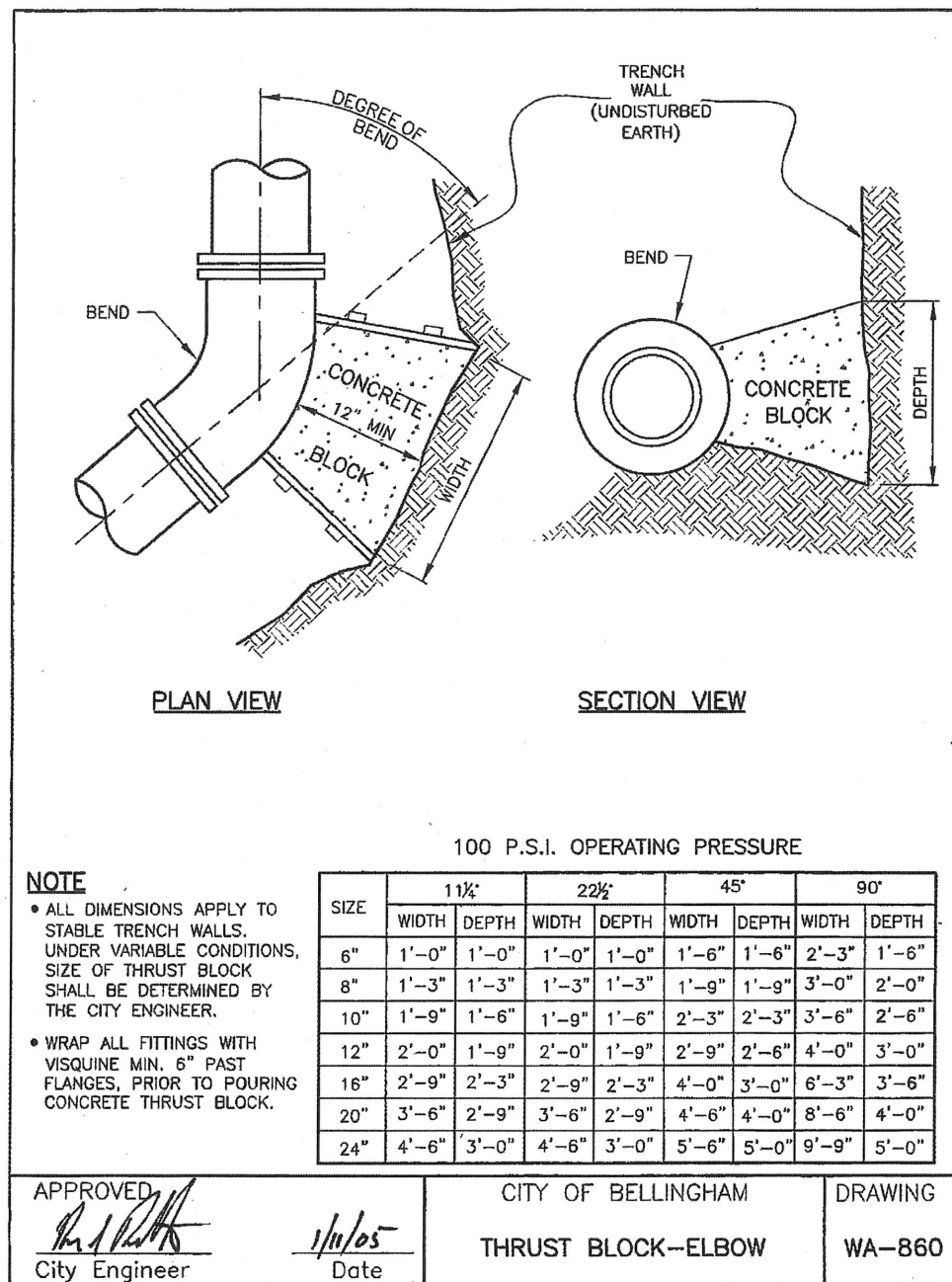
LEGEND

	CONSTRUCTION CENTERLINE
	EXISTING GUARDRAIL
	OVERHEAD POWER
	EXISTING WATER
	OVERHEAD CABLE TELEVISION
	WATER METERS AND VALVLES
	POWER POLE
	GUY ANCHOR
	TEMPORARY 4 IN (O.D.) HDPE WATER LINE
	12 IN (O.D.) HDPE WATER LINE
	SHOTCRETE WALL
	BACK SEAT OF PAVEMENT
	HIGH VISIBILITY FENCE
	HIGH VISIBILITY SILT FENCE

FILE NAME T:\412354\XL6093_SR542_Squalicum_to_Bham\CAE\ContractPlans\XL6093_180_PS_UT.dgn				REGION NO. 10 STATE WASH		FED.AID PROJ.NO.			SEE SHEET CT1 DATE	P.E. STAMP BOX	DATE		SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE	UT1	SHEET 29 OF 95 SHEETS
TIME 12:27:31 PM	DATE 1/5/2023	PLOTTED BY zakersr	DESIGNED BY R. ZAKERSKI	ENTERED BY R. ZAKERSKI	CHECKED BY A. GOO	PROJ. ENGR. M. AMBLER	REGIONAL ADM. B. NIELSEN								







FILE NAME T:\412354\XL6093_SR542_Squalicum_to_Bham\CAE\ContractPlans\XL6093_180_PS_UT.dgn		REGION NO. 10		STATE WASH	FED.AID PROJ.NO.		SEE SHEET, CT1 DATE	P.E. STAMP BOX	DATE		SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE UTILITY DETAILS	Plot 3 PLAN REF NO UTD1 SHEET 31 OF 95 SHEETS
TIME 12:28:32 PM	DATE 1/5/2023	JOB NUMBER 22A033		CONTRACT NO.	LOCATION NO.							
PLOTTED BY zakersr	DESIGNED BY R. ZAKERSKI	ENTERED BY R. ZAKERSKI	CHECKED BY A. GOO	PROJ. ENGR. M. AMBLER	REGIONAL ADM. B. NIELSEN	REVISION	DATE	BY				

LEGEND

TEMPORARY EASEMENT

WSDOT RIGHT OF WAY

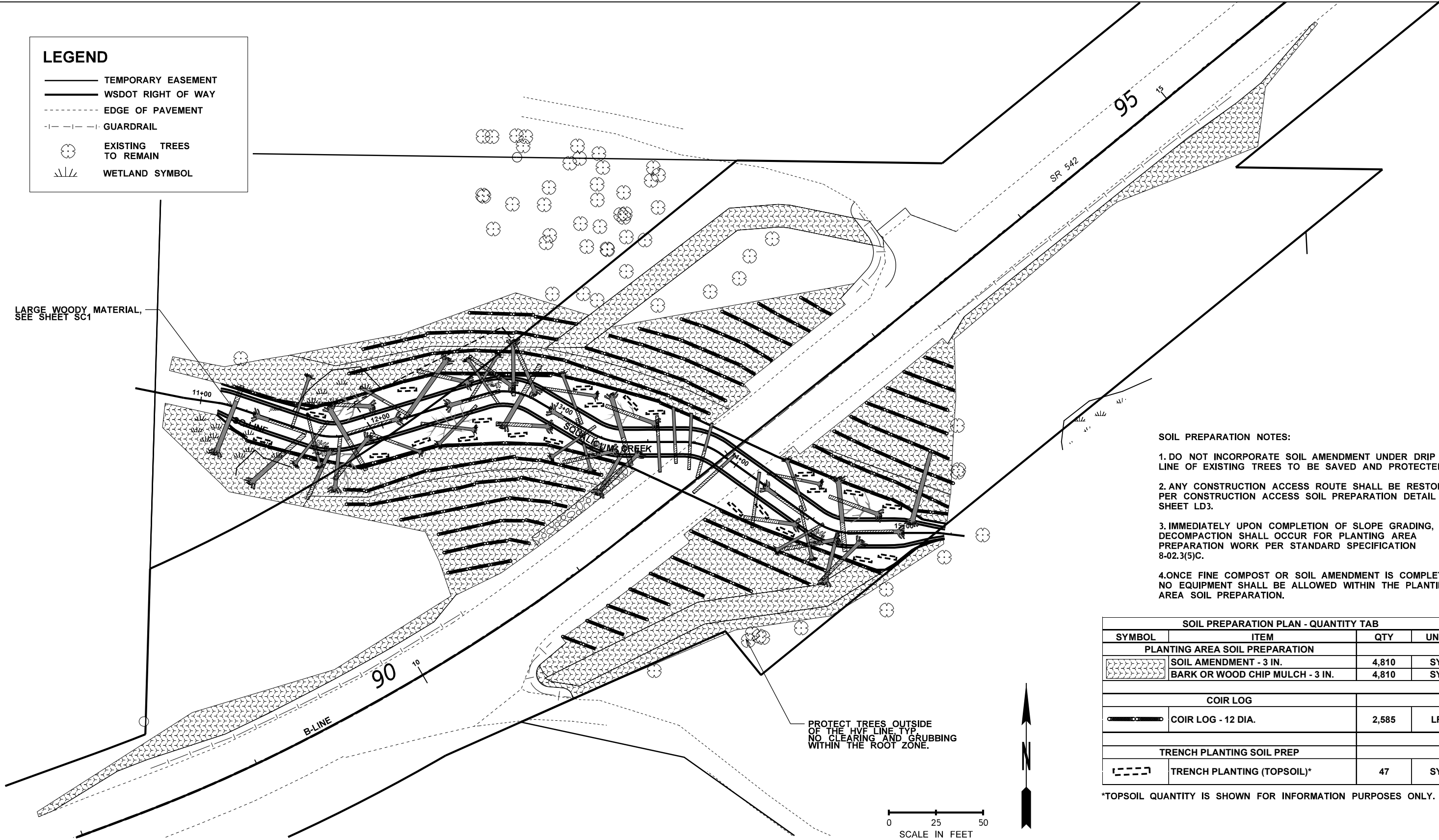
EDGE OF PAVEMENT

GUARDRAIL

EXISTING TREES TO REMAIN

WETLAND SYMBOL

LARGE WOODY MATERIAL,  
SEE SHEET SC1



- SOIL PREPARATION NOTES:
- DO NOT INCORPORATE SOIL AMENDMENT UNDER DRIP LINE OF EXISTING TREES TO BE SAVED AND PROTECTED.
  - ANY CONSTRUCTION ACCESS ROUTE SHALL BE RESTORED PER CONSTRUCTION ACCESS SOIL PREPARATION DETAIL ON SHEET LD3.
  - IMMEDIATELY UPON COMPLETION OF SLOPE GRADING, DECOMPACTION SHALL OCCUR FOR PLANTING AREA PREPARATION WORK PER STANDARD SPECIFICATION 8-02.3(5)C.
  - ONCE FINE COMPOST OR SOIL AMENDMENT IS COMPLETE, NO EQUIPMENT SHALL BE ALLOWED WITHIN THE PLANTING AREA SOIL PREPARATION.

SOIL PREPARATION PLAN - QUANTITY TAB			
SYMBOL	ITEM	QTY	UNIT
PLANTING AREA SOIL PREPARATION			
	SOIL AMENDMENT - 3 IN.	4,810	SY
	BARK OR WOOD CHIP MULCH - 3 IN.	4,810	SY
COIR LOG			
	COIR LOG - 12 DIA.	2,585	LF
TRENCH PLANTING SOIL PREP			
	TRENCH PLANTING (TOPSOIL)*	47	SY

\*TOPSOIL QUANTITY IS SHOWN FOR INFORMATION PURPOSES ONLY.

FILE NAME	T:\412006\XL6093 SR 542 Squalicum Crk to Bellingham Bay Fish Passage\CAD\ContractPlans\XL6093_PS_LS.dgn							FED.AID PROJ.NO.
TIME	1:12:52 PM					REGION NO.	STATE	
DATE	1/10/2023					10	WASH	
PLOTTED BY	doomlms					JOB NUMBER		
DESIGNED BY	M. DOO					22A033		
ENTERED BY	M. DOO					CONTRACT NO.		
CHECKED BY	L. JUNGBLUTH					LOCATION NO.		
PROJ. ENGR.	M. AMBLER							
REGIONAL ADM.	B.NIELSEN	REVISION			DATE	BY		



SR 542  
SQUALICUM CRK TO BELLINGHAM BAY  
FISH PASSAGE  
SOIL PREPARATION PLAN

Plot 1  
LS1  
SHEET 32 OF 95 SHEETS



LEGEND

TEMPORARY EASEMENT

WSDOT RIGHT OF WAY

EDGE OF PAVEMENT

GUARDRAIL

EXISTING TREES TO REMAIN

WETLAND SYMBOL

LARGE WOODY MATERIAL, SEE SHEET SC1

- GENERAL PLANTING NOTES:
1. RANDOMLY MIX SPECIES WITHIN PLANTING AREAS. PLANT SHRUBS IN GROUPS OF 3-5 BY SPECIES.
  2. SEE SHEET LD2 FOR TRENCH PLANTING DETAILS.
  3. SEE SHEET LD3 FOR LIVE FASCINE DETAILS.
  4. SEE PLANT MATERIAL SETBACK CHART ON LD1 FOR PLANTING NEAR STRUCTURES, ROADWAY, AND OVERHEAD UTILITY LINES.

PLANTING AREAS PLANTING PLAN-QUANTITY TAB						
SYMBOL	ITEM	QTY				
<div></div>	MIX A, 4' O.C.	A1	A2	A3	A4	A5
	WESTERN RED CEDAR, 8' O.C.	74	70	75	28	60
	DOUGLAS FIR, 8' O.C.	74	70	75	28	60
	INDIAN PLUM	63	60	64	24	52
	RED ELDERBERRY	63	60	64	24	52
	SNOWBERRY	63	60	64	24	52
	THIMBLEBERRY	63	60	64	24	52
	VINE MAPLE	63	60	64	24	52
<div></div>	MIX B, 4' O.C.	B1	B2	B3	B4	
	WESTERN RED CEDAR, 8' O.C.	52	20	49	13	
	SITKA SPRUCE, 8' O.C.	52	20	49	13	
	PACIFIC NINEBARK	45	17	42	12	
	RED-OSIER DOGWOOD	45	17	42	12	
	SALMONBERRY	45	17	42	12	
	THIMBLEBERRY	45	17	42	12	
	SNOWBERRY	45	17	42	12	
TRENCH PLANTING (LF)						
<div></div>	SALMONBERRY	220				
	RED-OSIER DOGWOOD					
	DEWEY'S SEDGE					
	SOFT RUSH					
LIVE FASCINE (LF)						
<div></div>	RED-OSIER DOGWOOD	225				
	BLACK TWINBERRY					
	SALMONBERRY					

\*CLUSTER PLANTING - SEE DETAIL ON SHEET LD1

FILE NAME

T:\412006\XL6093 SR 542 Squalicum Crk to Bellingham Bay Fish Passage\CAD\ContractPlans\XL6093\_PS\_LS.dgn

TIME

1:12:53 PM

DATE

1/10/2023

PLOTTED BY

doomlms

DESIGNED BY

M. DOO

ENTERED BY

M. DOO

CHECKED BY

L. JUNGBLUTH

PROJ. ENGR.

M. AMBLER

REGIONAL ADM.

B.NIELSEN

REGION NO.

10

STATE

WASH

JOB NUMBER

22A033

CONTRACT NO.

FED.AID PROJ.NO.

LOCATION NO.

STATE OF WASHINGTON

UNISEY A. JUNGBLUTH

NO 1483 EXP 11/05/2023

LANDSCAPE ARCHITECT

Washington State

Department of Transportation

SR 542

SQUALICUM CRK TO BELLINGHAM BAY

FISH PASSAGE

PLANTING PLAN

Plot 2

LS2

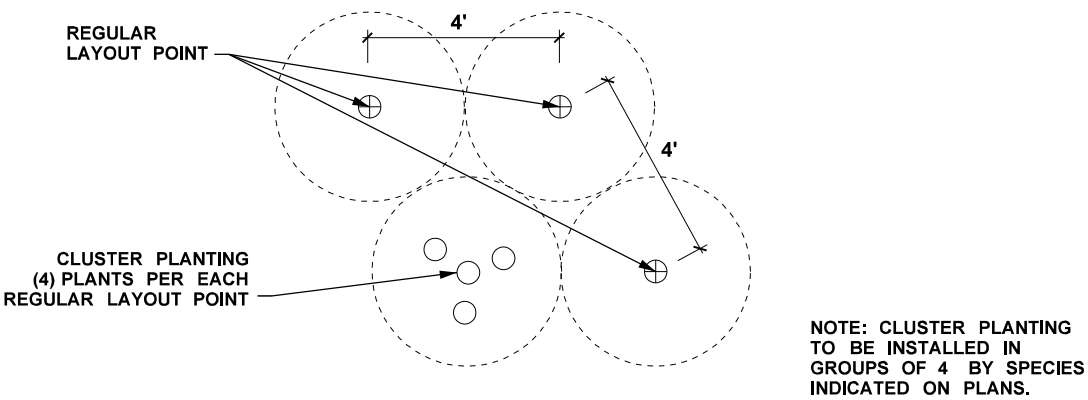
SHEET 33 OF 95 SHEETS

PLANT MATERIAL SETBACK CHART

THIS CHART SUPPLEMENTS SECTION 8.02.3(7) OF THE STANDARD SPECIFICATIONS. SETBACKS APPLY UNLESS OTHERWISE ADJUSTED BY ENGINEER DURING PLANT STAKING OR LAYOUT. DISTANCES BELOW ARE TO THE STEM OR TRUNK OF THE PLANT BEING INSTALLED.

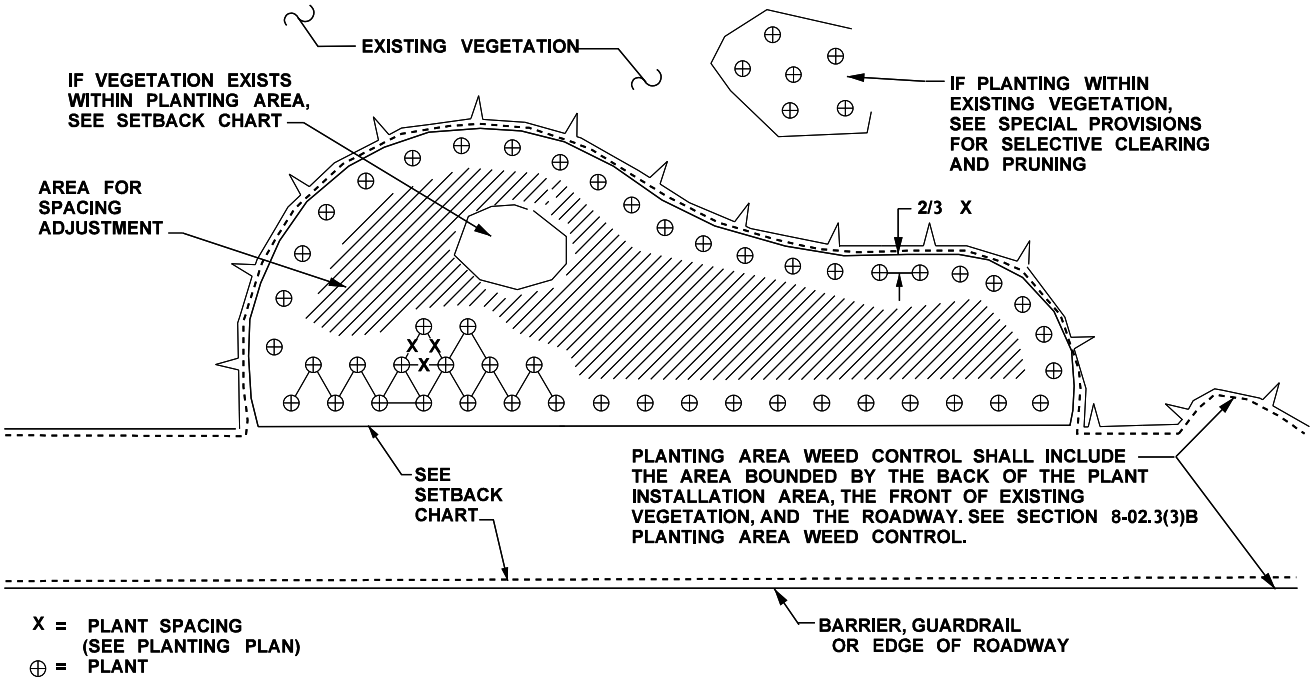
	GUARDRAIL BARRIER	EDGE OF ROADWAY	WALL	FENCE	SIGNS	EXISTING TREE TRUNK	EXISTING VEGETATION MASS	OVERHEAD POWER	DRAINAGE STRUCTURE	DRAINAGE ACCESS ROAD	CULVERT WALLS
GROUND COVER *	5'	5'	3'	1.5'	1.5'	5'	5'	-	5'	5'	3'
SMALL SHRUB **	5'	10'	5'	3'	6'	5'	5'	-	5'	5'	5'
TALL SHRUB ***	10'	15'	10'	3'	6'	10'	10'	10'	10'	10'	10'
DECIDUOUS TREE	15'	20'	15'	10'	15'	15'	10'	20'	10'	15'	15'
EVERGREEN TREE	15'	20'	15'	10'	15'	15'	10'	20'	10'	15'	15'

PLANT MATERIAL LIST					
COMMON NAME	BOTANICAL NAME	QUANTITY	SIZE	ROOT CONDITION	REMARKS
EVERGREEN TREES					
SITKA SPRUCE	PICEA SITCHENSIS	134	18 IN. HT.	NO. 2 CONT.	SECTION 9-14.7(2), SINGLE LEADER
WESTERN RED CEDAR	THUJA PLICATA	441	18 IN. HT.	NO. 2 CONT.	SECTION 9-14.7(2), SINGLE LEADER
DOUGLAS FIR	PSEUDOTSUGA MENZIESII	307	18 IN. HT.	NO. 2 CONT.	SECTION 9-14.7(2), SINGLE LEADER
SHRUBS					
VINE MAPLE***	ACER CIRCINATUM	263	12 IN. HT.	NO. 1 CONT.	SECTION 9-14.7(2), THREE STEM MIN.
RED-OSIER DOGWOOD***	CORNUS STOLONIFERA	226	12 IN. HT.	NO. 1 CONT.	SECTION 9-14.7(2), THREE STEM MIN.
INDIAN PLUM***	OEMLERIA CERASIFORMIS	263	12 IN. HT.	NO. 1 CONT.	SECTION 9-14.7(2), THREE STEM MIN.
PACIFIC NINEBARK***	PHYSOCARPUS CAPITATUS	116	12 IN. HT.	NO. 1 CONT.	SECTION 9-14.7(2), THREE STEM MIN.
WESTERN SWORD FERN**	POLYSTICHUM MUNITUM	1051	6 IN. HT.	NO. 1 CONT.	SECTION 9-14.7(2), THREE FROND MIN.
THIMBLEBERRY**	RUBUS PARVIFLORUS	379	12 IN. HT.	NO. 1 CONT.	SECTION 9-14.7(2), THREE CANE MIN.
SALMONBERRY***	RUBUS SPECTABILIS	226	12 IN. HT.	NO. 1 CONT.	SECTION 9-14.7(2), THREE CANE MIN.
RED ELDERBERRY***	SAMBUCUS RACEMOSA	263	12 IN. HT.	NO. 1 CONT.	SECTION 9-14.7(2), THREE STEM MIN.
SNOWBERRY**	SYMPHORICARPOS ALBUS	379	12 IN. HT.	NO. 1 CONT.	SECTION 9-14.7(2), THREE STEM MIN.
LIVE FASCINES					
RED-OSIER DOGWOOD***	CORNUS STOLONIFERA	33%	5 FT.	12" DIAM. FASCINE	SECTION 8-02.3(15)A, 9-14.7(1), LIVE CUTTING
BLACK TWINBERRY***	LONICERA INVOLUCRATA	33%	5 FT.	12" DIAM. FASCINE	SECTION 8-02.3(15)A, 9-14.7(1), LIVE CUTTING
SALMONBERRY***	RUBUS SPECTABILIS	33%	5 FT.	12" DIAM. FASCINE	SECTION 8-02.3(15)A, 9-14.7(1), LIVE CUTTING
GROUND COVER PERENNIALS					
LADY FERN*	ATHYRIUM FILIX-FEMINA	459	6 IN. HT.	NO. 1 CONT.	SECTION 9-14.7(2), THREE FROND MIN.
DEWEY'S SEDGE*	CAREX DEWEYANA	110	6 IN. HT.	NO. 1 CONT.	SECTION 9-14.7(2), THREE FROND MIN.
SOFT RUSH*	JUNCUS EFFUSUS	110	6 IN. HT.	NO. 1 CONT.	SECTION 9-14.7(2), THREE FROND MIN.



CLUSTER PLANTING LAYOUT

NOT TO SCALE

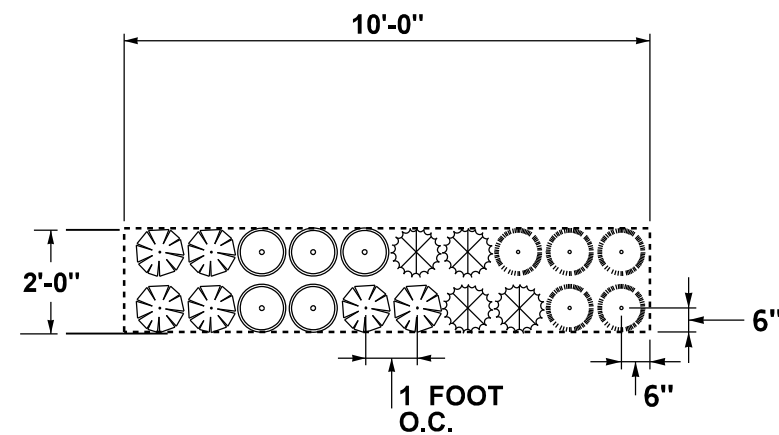


PLANTING AREA LAYOUT, SETBACK, AND WEED CONTROL

NOT TO SCALE

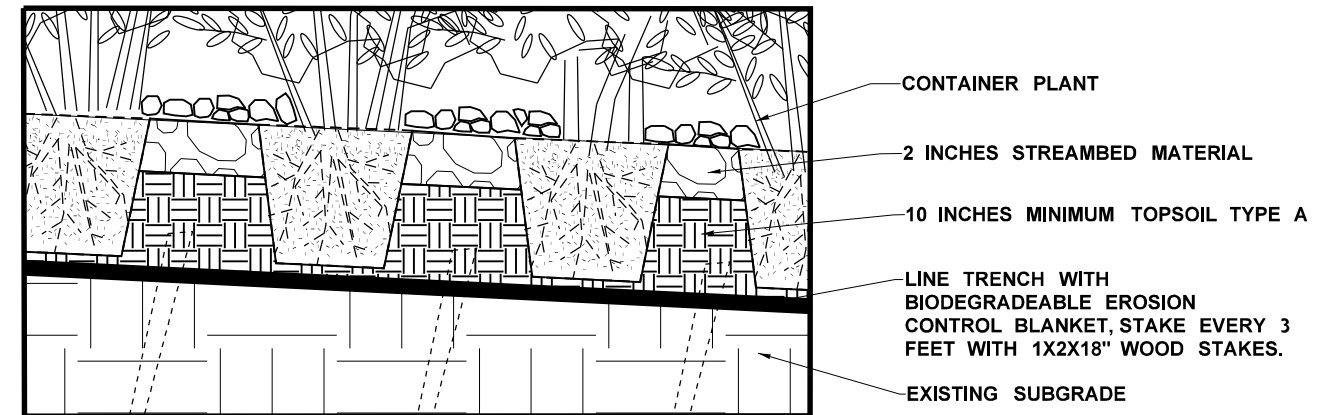
FILE NAME										T:\412006\XL6093 SR 542 Squallcum Crk to Bellingham Bay Fish Passage\CAD\ContractPlans\XL6093_PS_LS.dgn																				Plot 3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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**TRENCH INSTALLATION AND PLANTING NOTES:**

- 1. EXCAVATE TRENCH 2 FEET WIDE, 10 FEET LONG, AND 12 INCHES DEEP, WHERE SHOWN ON PLANS**
- 2. LINE TRENCH WITH BIODEGRADABLE EROSION CONTROL BLANKET AND STAKE EVERY 3 FEET WITH 1" x 2" x 18" WOOD STAKES**
- 3. PLACE 4 INCHES MINIMUM DEPTH OF TOPSOIL TYPE A**
- 4. INSTALL PLANTS.**
- 5. INSTALL 2 INCHES OF STREAMBED MATERIAL.**

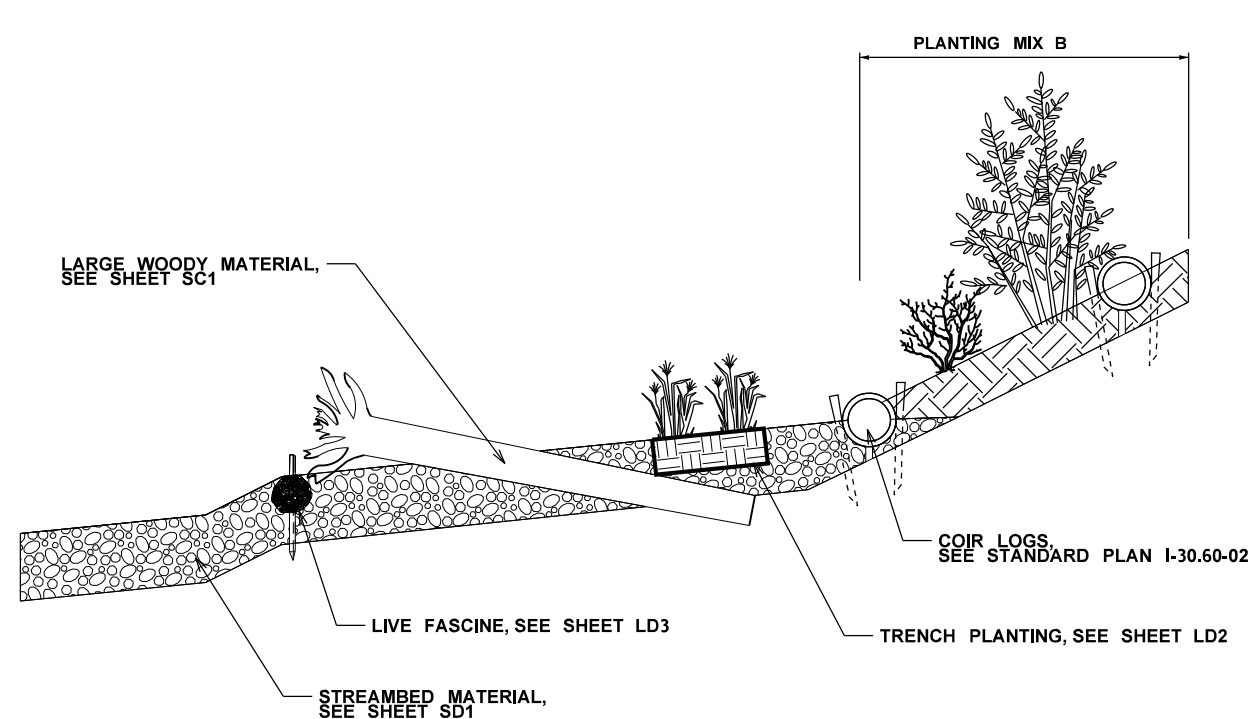


## TRENCH PLANTING - PLAN

NOT TO SCALE

## TRENCH PLANTING - SECTION

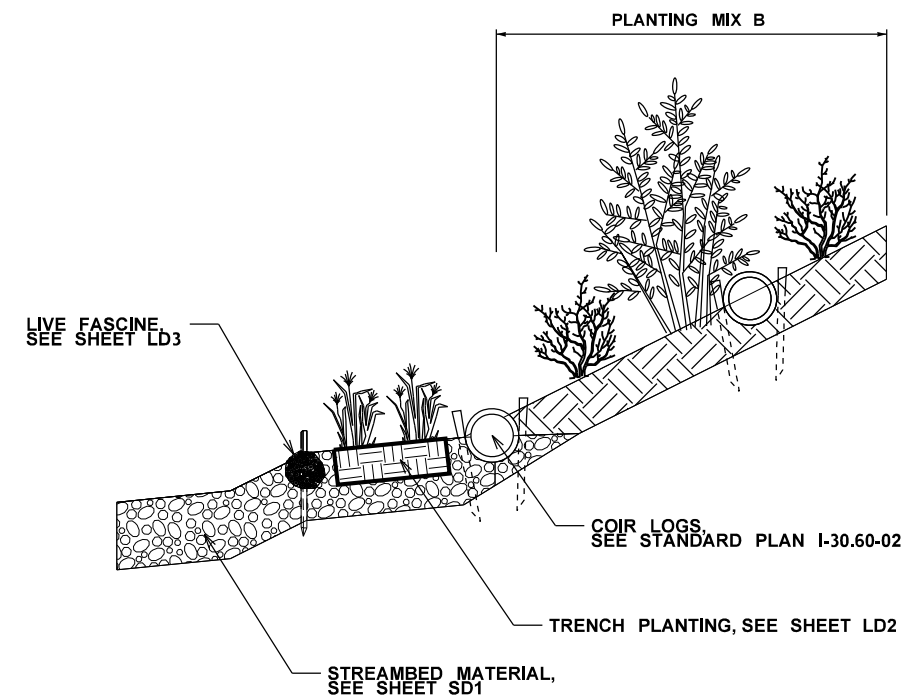
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## STREAM BIOENGINEERING - TYPICAL SECTION WITH BURIED LOG



## SECTION VIEW

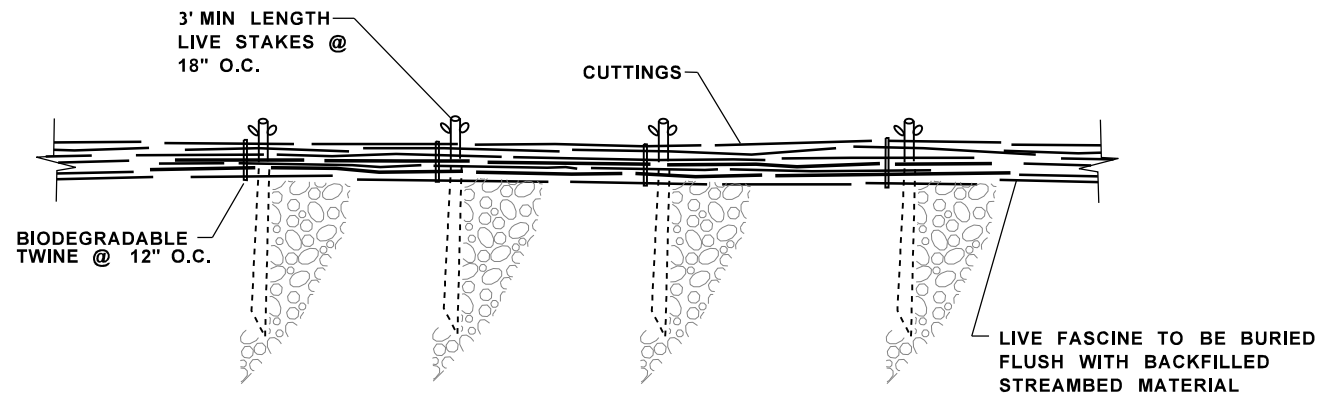
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## STREAM BIOENGINEERING - TYPICAL SECTION

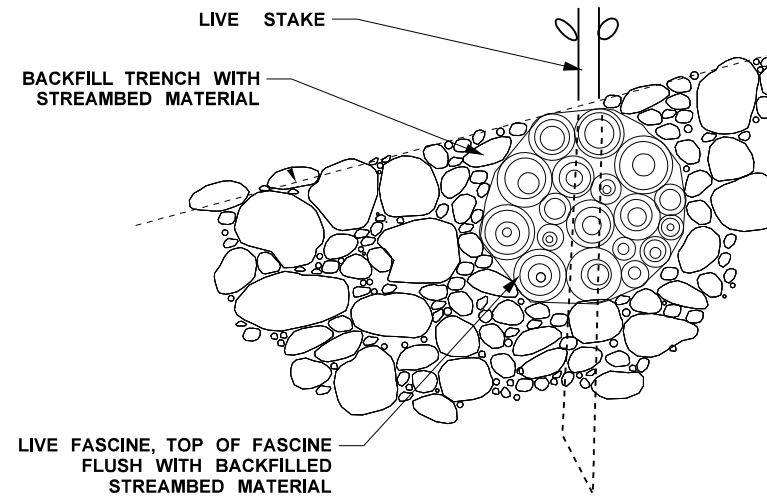
### SECTION VIEW

FILE NAME T:\412006\XL6093 SR 542 Squalicum Crk to Bellingham Bay Fish Passage\CAD\ContractPlans\XL6093_PS_LS.dgn										Plot 4	
TIME 12:48:47 PM						REGION NO. STATE		FED.AID PROJ.NO.		LD2	
DATE 1/10/2023						10 WASH				SHEET 35 OF 95 SHEETS	
PLOTTED BY doomlms						JOB NUMBER 22A033					
DESIGNED BY M. DOO											
ENTERED BY M. DOO											
CHECKED BY L. JUNGBLUTH						CONTRACT NO.		LOCATION NO.			
PROJ. ENGR. M. AMBLER											
REGIONAL ADM. B.NIELSEN		REVISION		DATE		BY					
  <p>Washington State Department of Transportation</p>										<p>SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE</p> <p>PLANTING DETAILS</p>	



### LIVE FASCINE

NOT TO SCALE



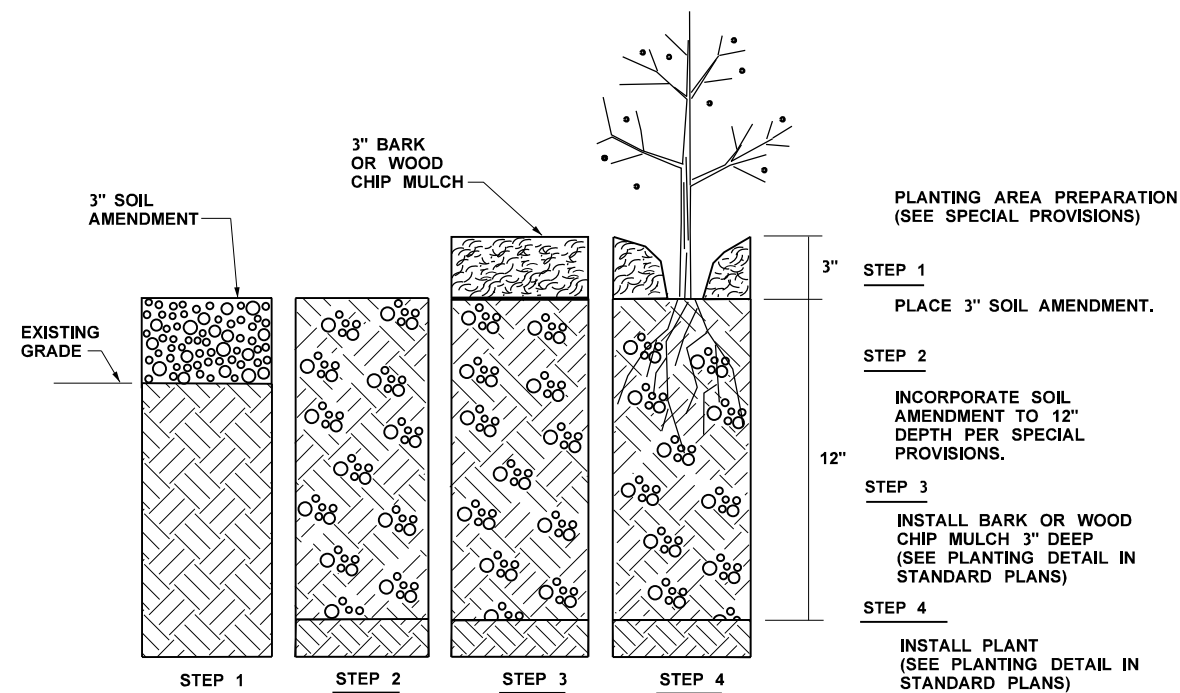
REFERENCE SECTION 8-02.3(15)A - LIVE FASCINES  
FASCINE INSTALLATION - SEQUENCE OF WORK

- STEP 1**  
EXCAVATE TRENCH DEEP ENOUGH TO BURY LIVE FASCINE FLUSH WITH STREAMBED MATERIAL.
- STEP 2**  
INSTALL FASCINE IN THE BOTTOM OF THE TRENCH.
- STEP 3**  
ANCHOR FASCINES WITH 3 FT. LONG, LIVE STAKES, DRIVEN A MINIMUM OF 2 FT. INTO THE GROUND.
- STEP 4**  
BACKFILL TRENCH WITH STREAMBED MATERIAL.

### LIVE FASCINE - INSTALLATION AND SEQUENCE OF WORK

SECTION VIEW

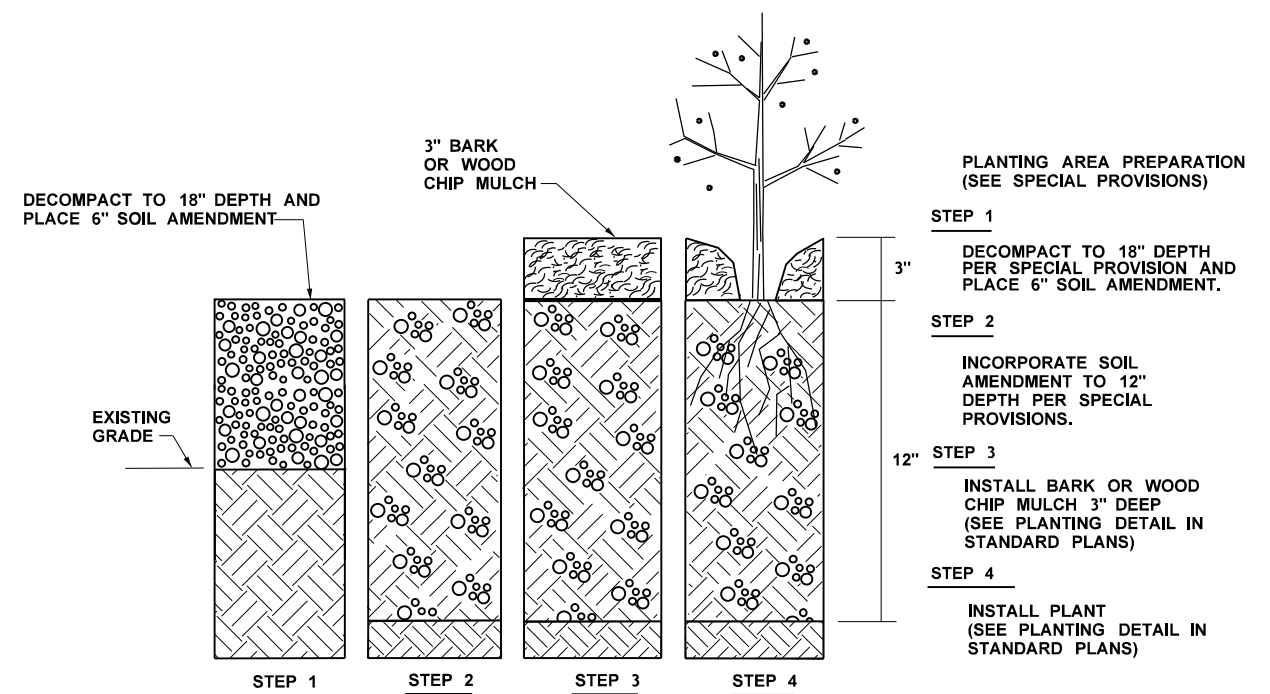
NOT TO SCALE



### PLANTING AREA SOIL PREPARATION - SEQUENCE OF WORK

SECTION VIEW

NOT TO SCALE



### CONSTRUCTION ACCESS SOIL PREPARATION - SEQUENCE OF WORK

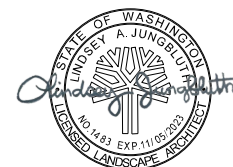
SECTION VIEW

NOT TO SCALE

FILE NAME	T:\412006\XL6093 SR 542 Squalicum Crk to Bellingham Bay Fish Passage\CAD\ContractPlans\XL6093_PS_LS.dgn				
TIME	12:48:48 PM				
DATE	1/10/2023				
PLOTTED BY	doomlms				
DESIGNED BY	M. DOO				
ENTERED BY	M. DOO				
CHECKED BY	L. JUNGBLUTH				
PROJ. ENGR.	M. AMBLER				
REGIONAL ADM.	B.NIELSEN				
	REVISION	DATE	BY		
				REGION NO.	STATE
				10	WASH
				JOB NUMBER	
				22A033	
				CONTRACT NO.	LOCATION NO.

FED.AID PROJ.NO.

LOCATION NO.



SR 542  
SQUALICUM CRK TO BELLINGHAM BAY  
FISH PASSAGE

PLANTING DETAILS

Plot 5


LD3

SHEET  
36  
OF  
95  
SHEETS

QUANTITY TABULATION - PAVING / PAVEMENT MARKING PLAN									
--	--	--	--	--	--	--	--	--	--

<p>NOTE: THE FIRST NUMBER OF THE "CODE" BELOW REFERS TO THE SHEET NO. OR THE SHEET REFERENCE NO. SHOWING THE CONSTRUCTION FEATURE.</p> <p>THE SECOND NUMBER REFERS TO THE CONSTRUCTION FEATURE FOUND ON THAT SHEET.</p>	PLANING BITUMINOUS PAVEMENT	HMA SAWCUT AND SEAL		BEAM GUARDRAIL TYPE 31 - 9 FT. LONG POST	BEAM GUARDRAIL TYPE 31	BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL	BEAM GUARDRAIL TRANSITION SECTION TYPE 21	BEAM GUARDRAIL ANCHOR TYPE 11	PERMANENT IMPACT ATTENUATOR		FLEXIBLE GUIDE POST	BARRIER DELINEATOR		PLASTIC LINE	PLASTIC DRAINAGE MARKING	SEE GENERAL NOTES	GENERAL NOTES:
---	-----------------------------	---------------------	--	--	------------------------	--	---	-------------------------------	-----------------------------	--	---------------------	--------------------	--	--------------	--------------------------	-------------------	----------------


[illegible]

						REGION NO.	STATE	FED. AID PROJ. NO.			<div> Washington State Department of Transportation</div>	SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE	QTPV 1
DESIGNED BY	R. ZAKERSKI					10	WASH	ARPA001		SHEET			
ENTERED BY	R. ZAKERSKI					JOB NUMBER				37			
CHECKED BY	A. GOO					22A033				OF			
PROJ. ENGR.	M. AMBLER					CONTRACT NO.				95	QUANTITY TABULATION - PAVING / PAVEMENT MARKING PLAN	SHEETS	
REGION ADM.	B. NIELSEN												
		DATE	DATE	REVISION	BY								

QUANTITY TABULATION - PAVING / PAVEMENT MARKING PLAN									
--	--	--	--	--	--	--	--	--	--

<p>NOTE: THE FIRST NUMBER OF THE "CODE" BELOW REFERS TO THE SHEET NO. OR THE SHEET REFERENCE NO. SHOWING THE CONSTRUCTION FEATURE.</p> <p>THE SECOND NUMBER REFERS TO THE CONSTRUCTION FEATURE FOUND ON THAT SHEET.</p>	CENTERLINE RUMBLE STRIP	SHOULDER RUMBLE STRIP TYPE 4		RECESSED PAVEMENT MARKER TYPE 2		MAILBOX SUPPORT TYPE 2										SEE GENERAL NOTES	GENERAL NOTES:
---	-------------------------	---------------------------------	--	------------------------------------	--	------------------------	--	--	--	--	--	--	--	--	--	-------------------	----------------

[illegible]

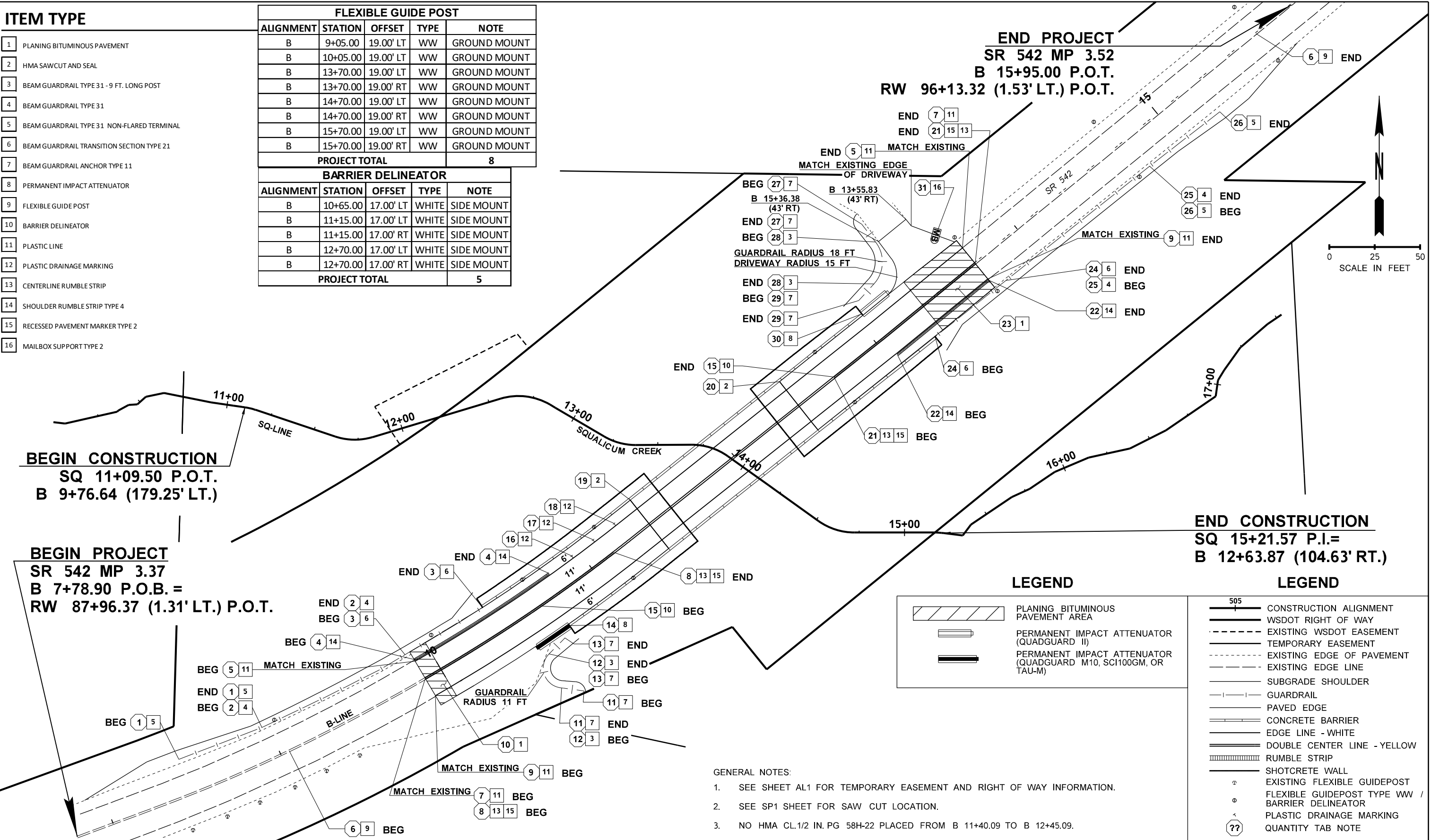
						REGION NO.	STATE	FED. AID PROJ. NO.			SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE	QTPV 2
DESIGNED BY	R. ZAKERSKI					10	WASH	ARPA001		 Washington State Department of Transportation		SHEET
ENTERED BY	R. ZAKERSKI					JOB NUMBER					38	
CHECKED BY	A. GOO					22A033					OF	
PROJ. ENGR.	M. AMBLER					CONTRACT NO.					95	
REGION ADM.	B. NIELSEN										QUANTITY TABULATION - PAVING / PAVEMENT MARKING PLAN	SHEETS
		DATE	DATE	REVISION	BY							

ITEM TYPE

1	PLANING BITUMINOUS PAVEMENT
2	HMA SAWCUT AND SEAL
3	BEAM GUARDRAIL TYPE 31 - 9 FT. LONG POST
4	BEAM GUARDRAIL TYPE 31
5	BEAM GUARDRAIL TYPE 31 - NON-FLARED TERMINAL
6	BEAM GUARDRAIL TRANSITION SECTION TYPE 21
7	BEAM GUARDRAIL ANCHOR TYPE 11
8	PERMANENT IMPACT ATTENUATOR
9	FLEXIBLE GUIDE POST
10	BARRIER DELINEATOR
11	PLASTIC LINE
12	PLASTIC DRAINAGE MARKING
13	CENTERLINE RUMBLE STRIP
14	SHOULDER RUMBLE STRIP TYPE 4
15	RECESSED PAVEMENT MARKER TYPE 2
16	MAILBOX SUPPORT TYPE 2

FLEXIBLE GUIDE POST					
ALIGNMENT	STATION	OFFSET	TYPE	NOTE	
B	9+05.00	19.00' LT	WW	GROUND MOUNT	
B	10+05.00	19.00' LT	WW	GROUND MOUNT	
B	13+70.00	19.00' LT	WW	GROUND MOUNT	
B	13+70.00	19.00' RT	WW	GROUND MOUNT	
B	14+70.00	19.00' LT	WW	GROUND MOUNT	
B	14+70.00	19.00' RT	WW	GROUND MOUNT	
B	15+70.00	19.00' LT	WW	GROUND MOUNT	
B	15+70.00	19.00' RT	WW	GROUND MOUNT	
PROJECT TOTAL				8	

BARRIER DELINEATOR					
ALIGNMENT	STATION	OFFSET	TYPE	NOTE	
B	10+65.00	17.00' LT	WHITE	SIDE MOUNT	
B	11+15.00	17.00' LT	WHITE	SIDE MOUNT	
B	11+15.00	17.00' RT	WHITE	SIDE MOUNT	
B	12+70.00	17.00' LT	WHITE	SIDE MOUNT	
B	12+70.00	17.00' RT	WHITE	SIDE MOUNT	
PROJECT TOTAL				5	





- GENERAL NOTES:
- SEE SHEET AL1 FOR TEMPORARY EASEMENT AND RIGHT OF WAY INFORMATION.
  - SEE SP1 SHEET FOR SAW CUT LOCATION.
  - NO HMA CL.1/2 IN. PG 58H-22 PLACED FROM B 11+40.09 TO B 12+45.09.

LEGEND

	PLANING BITUMINOUS PAVEMENT AREA
	PERMANENT IMPACT ATTENUATOR (QUADGUARD II)
	PERMANENT IMPACT ATTENUATOR (QUADGUARD M10, SC100GM, OR TAU-M)

LEGEND

	505 CONSTRUCTION ALIGNMENT
	WSDOT RIGHT OF WAY
	EXISTING WSDOT EASEMENT
	TEMPORARY EASEMENT
	EXISTING EDGE OF PAVEMENT
	EXISTING EDGE LINE
	SUBGRADE SHOULDER
	GUARDRAIL
	PAVED EDGE
	CONCRETE BARRIER
	EDGE LINE - WHITE
	DOUBLE CENTER LINE - YELLOW
	RUMBLE STRIP
	SHOTCRETE WALL
	EXISTING FLEXIBLE GUIDEPOST
	FLEXIBLE GUIDEPOST TYPE WW / BARRIER DELINEATOR
	PLASTIC DRAINAGE MARKING
	QUANTITY TAB NOTE

FILE NAME T:\412354\XL6093_SR542_Squalicum_to_Bham\CAE\ContractPlans\XL6093_250_PS_PV.dgn										REGION NO. STATE 10 WASH		FED.AID PROJ.NO.				Plot 1	
TIME 12:07:29 PM									PLAN REF NO								
DATE 1/9/2023									PV1								
PLOTTED BY zakersr																	
DESIGNED BY R. ZAKERSKI																	
ENTERED BY R. ZAKERSKI										JOB NUMBER 22A033	LOCATION NO.	<div>SEE SHEET CT1 DATE</div> <div>P.E. STAMP BOX</div>	<div>SEE SHEET CT1 DATE</div> <div>P.E. STAMP BOX</div>	SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE	PAVING / PAVEMENT MARKING PLAN	SHEET 39 OF 95 SHEETS	
CHECKED BY A. GOO																	
PROJ. ENGR. M. AMBLER																	
REGIONAL ADM. B. NIELSEN																	
REVISION				DATE	BY												







**LEGEND:**

 IDENTIFIES SECTION, VIEW, OR ELEVATION

BA1 IDENTIFIES SHEET TAKEN FROM  
OR SHOWN ON  
IDENTIFIES DETAIL NUMBER

IDENTIFIES DETAIL NUMBER

SHOWN ON THE SAME SHEET

KEY NOTE: IDENTIFIES NOTE REFERENCE ON THE SAME SHEET

EXISTING CATCH BASIN



SOIL BORING LOCATIONS

 EXISTING WATER VALVE BOX



EXISTING WATER METER BOX

BRIDGE GRATE INLET

 JUNCTION BOX

E EXPANSION BEARING

— W — . EXIST. WATER LINE (TO BE  
REINSTALLED ON BRIDGE)

— ST — . EXIST. STORM SEWER (TO BE  
REMOVED DURING  
CONSTRUCTION)

—BTV— . EXIST. BURIED CABLE TV (TO BE  
RELOCATED PRIOR TO  
CONSTRUCTION)

— OT — . EXIST. OVERHEAD TELEPHONE  
LINE (TO BE RELOCATED PRIOR  
TO CONSTRUCTION)

— OP — . EXIST. OVERHEAD POWER LINE  
(TO BE RELOCATED PRIOR TO  
CONSTRUCTION)

## KEY NOTES:

1 100°00'07"

2 FRONT FACE OF ABUTMENT WALL

3 2 ~ 2"Ø CONDUIT PIPES IN TRAFFIC BARRIER FOR FULL LENGTH OF BARRIER

4 BRIDGE RAILING TYPE BP-12

5 BEAM GUARDRAIL CONNECTION TYPE  
"D" (STD. PLAN C-24.10)

6 CONNECTION TO IMPACT ATTENUATOR  
(SEE BR. SHT. B27 AND CIVIL PLANS)

P.C. GIRDERS (WF50G)  
LOADING: HL-93

SEISMIC OPERATIONAL CLASSIFICATION: NORMAL

SR 542

# SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE

SQUALICUM CREEK BRIDGE 542/3

## LAYOUT

PLAN REF NO

**B1**

SHEE

41  
OF

95

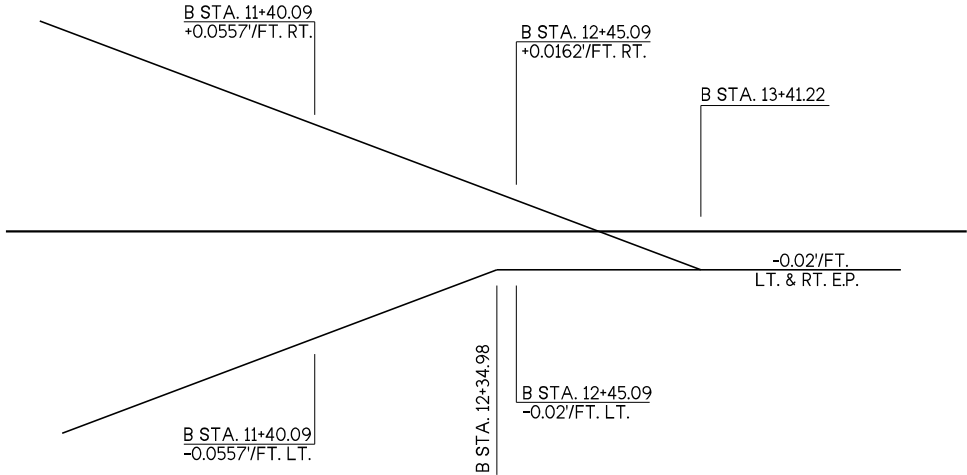
SHEET



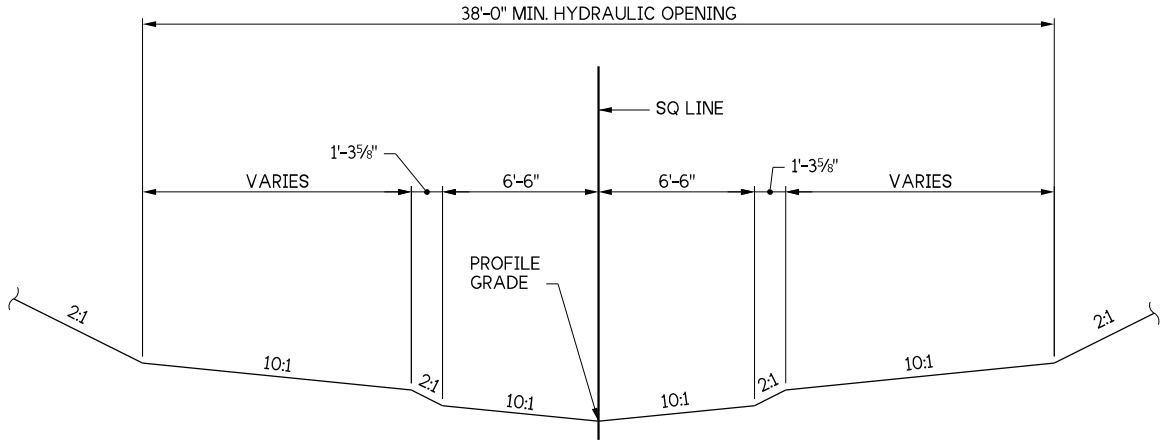
SEE SHEET CT:

P.E. STAMP BOX

SR  
BRIDGE SHEET  
OF  
FILE NO.



B LINE SUPERELEVATION DIAGRAM



SQUALICUM CREEK SECTION AT BRIDGE  
DIMENSIONS MEASURED NORMAL TO SQ LINE

CURVE DATA					
P.I. STATION	Δ	RADIUS	TANGENT	LENGTH	BK. TANGENT BRG.
B 10+67.26	7°37'49" LT	900.00'	60.02'	119.86'	N 59°09'23" E
SQ 13+28.90	30°42'36" LT.	34.00'	9.34'	18.22'	S 59°31'44" E
SQ 13+79.65	35°45'47" RT.	34.00'	10.97'	21.22'	N 89°45'40" E
SQ 14+62.30	35°36'43" LT.	34.00'	10.92'	21.13'	S 54°28'33" E

GENERAL NOTES:

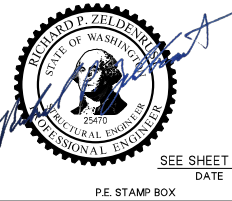
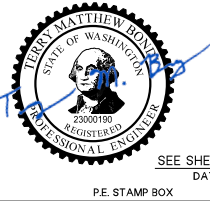
- ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION DATED 2023.
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9TH EDITION 2020. DEAD LOAD INCLUDES ADDITIONAL FUTURE WEARING SURFACE OF 35 POUNDS PER SQUARE FOOT. THE BRIDGE TRAFFIC BARRIERS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS FOR TEST LEVEL 4 (TL4) RAILINGS.
- THE SEISMIC DESIGN OF THIS STRUCTURE HAS BEEN COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN 2ND EDITION USING SEISMIC DESIGN CATEGORY D, SITE CLASS E SOIL, A PEAK GROUND ACCELERATION (PGA) ON SOIL CLASS B/C OF 0.294G, AND A 0.2 SECOND AND 1.0 SECOND SPECTRAL ACCELERATION ON SOIL CLASS B OF 0.664G AND 0.194G, RESPECTIVELY.
- THE CONCRETE IN BRIDGE DECKS SHALL BE CLASS 4000D. THE CONCRETE IN THE SEALS SHALL BE CLASS 4000W. ALL OTHER CAST-IN-PLACE CONCRETE SHALL BE CLASS 4000, EXCEPT CELLULAR CONCRETE AND CONCRETE SLOPE PROTECTION.
- UNLESS OTHERWISE SHOWN IN THE PLANS, CONCRETE COVER MEASURED FROM THE FACE OF CONCRETE TO THE FACE OF ANY REINFORCING STEEL SHALL BE 2.5" AT THE TOP OF THE BRIDGE DECK, 3" AT THE BOTTOM OF FOOTING, AND 2" AT ALL OTHER LOCATIONS.
- FALSEWORK SHALL BE CAREFULLY RELEASED TO PREVENT IMPACT OR UNDUE STRESS IN THE STRUCTURE.
- NOMINAL BEARING CAPACITY OF SPREAD FOOTINGS SHALL BE TAKEN AS FOLLOWS:

PIER NO.	SERVICE LIMIT STATE	STRENGTH LIMIT STATE	EXTREME LIMIT STATE
1	17 KSF	17 KSF	17 KSF
2	17 KSF	17 KSF	17 KSF

- SEE SHEETS G1 THROUGH G7 FOR CELLULAR CONCRETE RETAINING WALL DETAILS.

FILE PATH / NAME	c:\users\deboejak\pw_wsdot\0474010\02 GENERAL NOTES.dgn			
BRIDGE DES. ENG.	KHALEGI, B			
BRIDGE PROJ. ENG.				
SUPERVISOR	ZELDENRUST, R			
DESIGNED BY	BONDY, T			
CHECKED BY	BARKLEY, J			
ENTERED BY	DEBOER, J			
PRELIM. PLAN BY				
ARCH. / SPEC.		REVISION	DATE	BY
PLOT DATE: 1/5/2023      PLOT TIME: 4:40:57 PM      PLOTTED BY: deboejak				

REGION NO.	STATE
10	WASH
JOB NUMBER	
22A033	
CONTRACT NO.	



SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3		PLAN REF NO
GENERAL NOTES		B2
		SHEET 42 OF 95 SHEETS



INSTALL TEMPORARY BRACING FOR ERECTION IN  
ACCORDANCE WITH STD. SPEC. SECTION 6-02.3(17)F4.

INSTALL TEMPORARY BRACING FOR ERECTION IN  
ACCORDANCE WITH STD. SPEC. SECTION 6-02.3(17)F4.



INSTALL TEMPORARY BRACING FOR DIAPHRAGM AND DECK PLACEMENT IN ACCORDANCE WITH STD. SPEC. SECTION 6-02.3(17)F5.

INSTALL TEMPORARY BRACING FOR DIAPHRAGM AND DECK PLACEMENT IN ACCORDANCE WITH STD. SPEC. SECTION 6-02.3(17)F5.

CAST BRIDGE DECK (OR PLACE PRECAST DECK PANELS) WHEN DIAPHRAGM CONCRETE COMPRESSIVE STRENGTH HAS REACHED 3000 PSI (MIN.)



### STAGE 3 CAST BRIDGE DECK

TRAFFIC BARRIER SHALL NOT BE CAST  
UNTIL DECK CONCRETE COMPRESSIVE  
STRENGTH HAS REACHED 3000 PSI (MIN.)






## STAGE 4

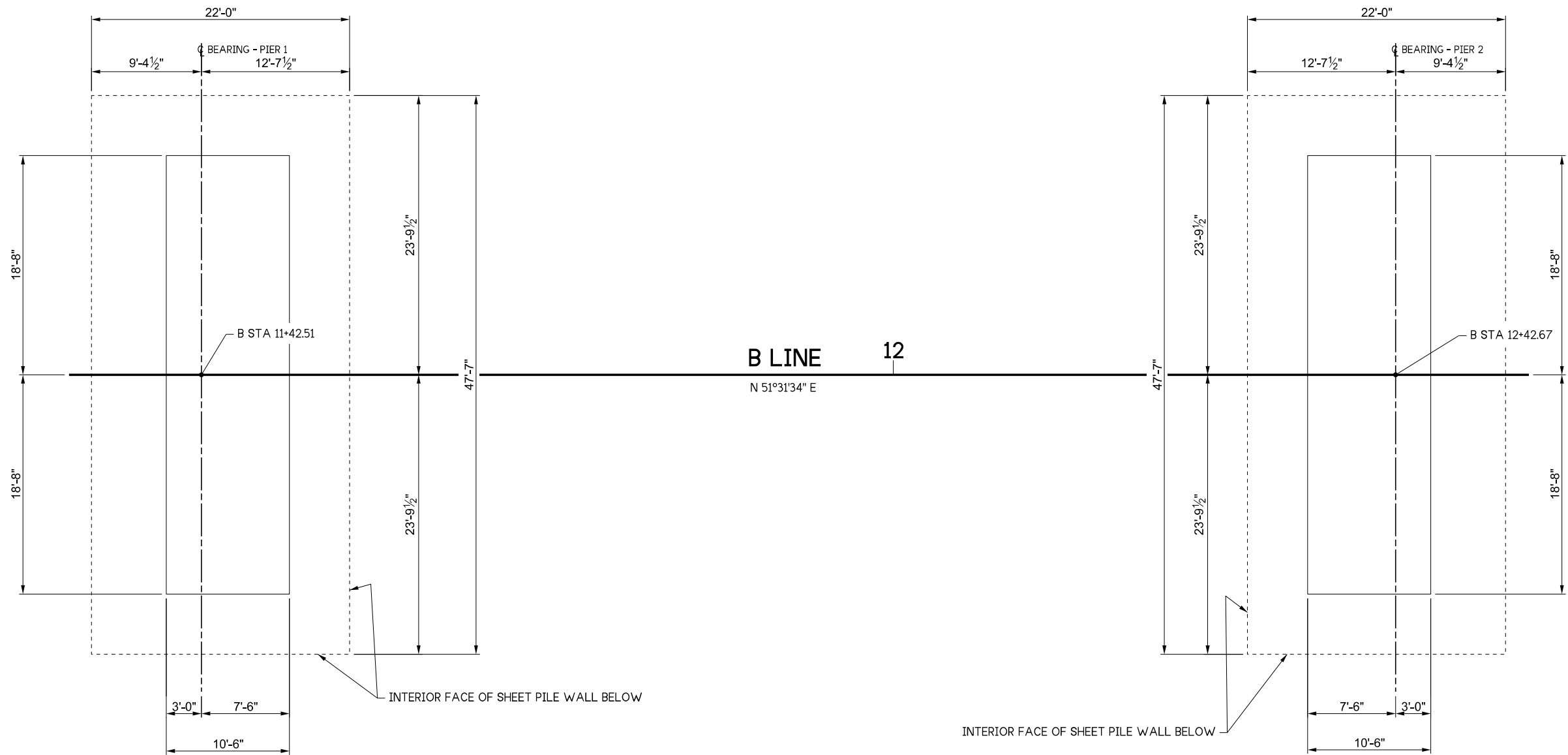
### CAST TRAFFICE BARRIERS

### TEMPORARY STRAND CUTTING SEQUENCE

1. ERECT AND BRACE GIRDERS.
2. JUST PRIOR TO CUTTING THE TEMPORARY STRANDS, REMOVE EXPANDED POLYSTYRENE IN BLOCKOUTS IN TOP FLANGE OF GIRDERS. ONCE THE EXPANDED POLYSTYRENE HAS BEEN REMOVED FROM THE STRAND DETENSIONING BLOCKOUT, PREVENT MOISTURE FROM ENTERING THE BLOCKOUT UNTIL THE TEMPORARY TOP STRAND IS CUT AND THE BLOCKOUT IS FILLED WITH GROUT.
3. CUT STRANDS IN BLOCKOUTS. STRANDS MAY BE CUT BY USING A CUTTING TORCH AND MOVING THE FLAME BACK AND FORTH OVER THE LENGTH OF EXPOSED STRAND TO LET INDIVIDUAL WIRES BREAK ONE AT A TIME TO LESSEN THE SHOCK TO THE GIRDER. STRANDS SHALL BE RELEASED IN A SYMMETRICAL MANNER ABOUT THE GIRDER CENTERLINE STARTING WITH THOSE FURTHEST FROM THE CENTERLINE AND WORKING INWARDS. FOR POST-TENSIONED TEMPORARY TOP STRANDS, ACTIVELY RESTRAIN THE STRAND CHUCKS AT THE GIRDER ENDS DURING CUTTING.
4. WITHIN 24 HOURS OF CUTTING THE TEMPORARY STRANDS, FILL THE BLOCKOUTS WITH A GROUT CONFORMING TO STD. SPEC. 9-20.3(2). REMOVE ALL MOISTURE IN BLOCKOUTS PRIOR TO FILLING THEM WITH GROUT.

BRIDGE SHEET	FILE PATH / NAME c:\users\deboejak\pw_wsdot\d0474010\03 CONSTRUCTION SEQUENCE.dgn				REGION NO.	STATE		 SEE SHEET CT1 DATE P.E. STAMP BOX	 SEE SHEET CT1 DATE P.E. STAMP BOX	SR 542		PLAN REF NO.
	BRIDGE DES. ENG. KHALEGHI, B				10	WASH				SQUALICUM CRK TO BELLINGHAM BAY		B3
	BRIDGE PROJ. ENG.				JOB NUMBER					FISH PASSAGE		SHEET 43 OF 95 SHEETS
	SUPERVISOR ZELDENRUST, R				22A033					SQUALICUM CREEK BRIDGE 542/3		
	DESIGNED BY BONDY, T				CONTRACT NO.					CONSTRUCTION SEQUENCE		
	CHECKED BY BARKLEY, J											
	ENTERED BY DEBOER, J											
SR	PRELIM. PLAN BY											
	ARCH. / SPEC.											
PLOT DATE: 1/5/2023				PLOT TIME: 4:41:05 PM		PLOTTED BY: deboejak						

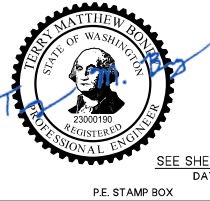
SR  
BRIDGE SHEET  
OF  
FILE NO.



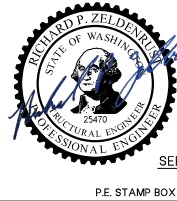
**FOUNDATION PLAN**  
BEARING OF ALL PIERS IS NORMAL TO B LINE

FILE PATH / NAME	c:\users\deboejak\pw_wsdot\0474010\04 FOUNDATION PLAN.dgn			
BRIDGE DES. ENG.	KHALEGHI, B			
BRIDGE PROJ. ENG.				
SUPERVISOR	ZELDENRUST, R			
DESIGNED BY	BONDY, T			
CHECKED BY	BARKLEY, J			
ENTERED BY	DEBOER, J			
PRELIM. PLAN BY				
ARCH. / SPEC.				
PLOT DATE: 1/5/2023	PLOT TIME: 4:41:20 PM	PLOTTED BY: deboejak		

REGION NO.	STATE
10	WASH
JOB NUMBER	
22A033	
CONTRACT NO.	



SEE SHEET CT1  
DATE  
P.E. STAMP BOX



SEE SHEET CT1  
DATE  
P.E. STAMP BOX

SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3	
FOOTING PLAN	

PLAN REF NO
B4
SHEET 44 OF 95 SHEETS

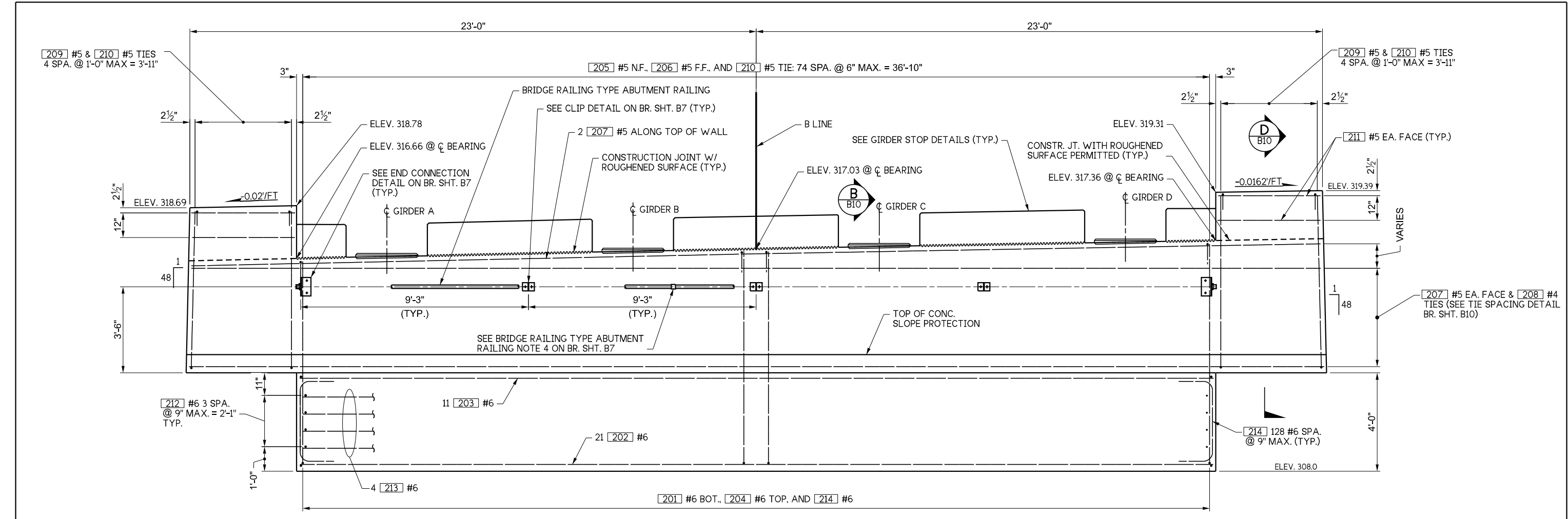








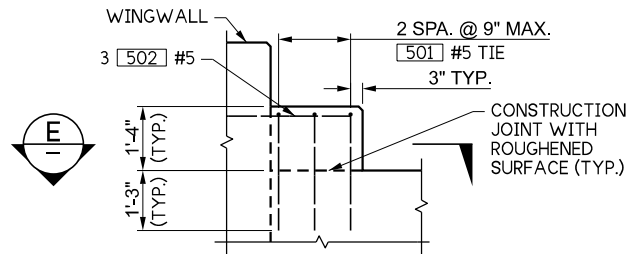




ELEVATION

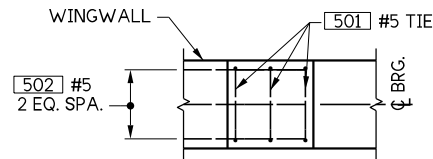
SUPERSTRUCTURE AND BRIDGE RAILING TYPE  
CHAIN LINK PIPE RAIL NOT SHOWN FOR CLARITY.  
N.F. = NEAR FACE  
F.F. = FAR FACE

TOP OF GROUT PAD ELEVATIONS				
GIRDER	A	B	C	D
ELEV.	316.86	317.06	317.25	317.42

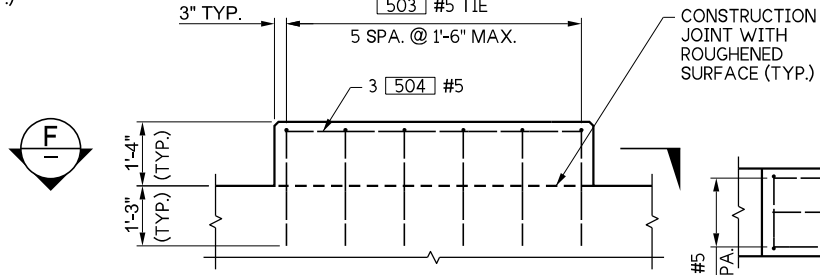


GIRDER STOP DETAIL

PIER 1 LEFT EXT. SHOWN  
PIER 2 LEFT EXT. SIMILAR

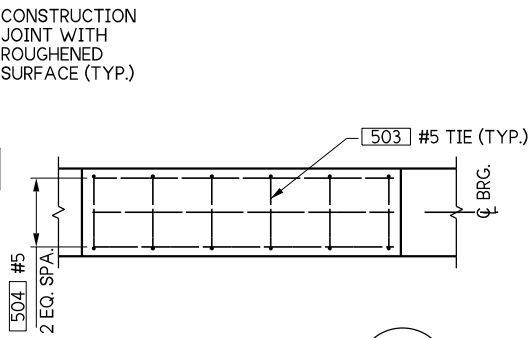


VIEW E

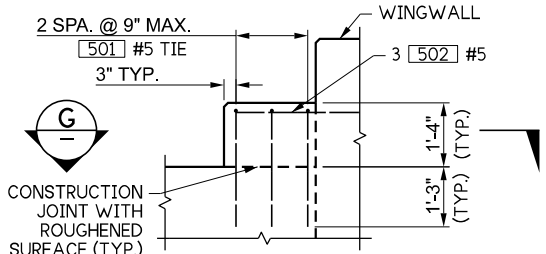


GIRDER STOP DETAIL

TYPICAL INTERIOR

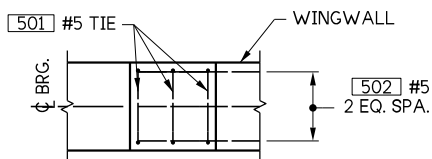


VIEW F



GIRDER STOP DETAIL

PIER 1 RIGHT EXT. SHOWN  
PIER 2 RIGHT EXT. SIMILAR



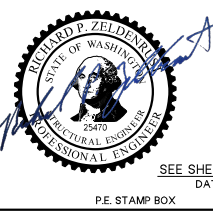
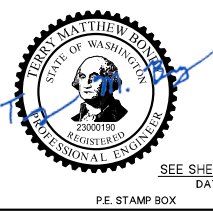
VIEW G

NOTES:

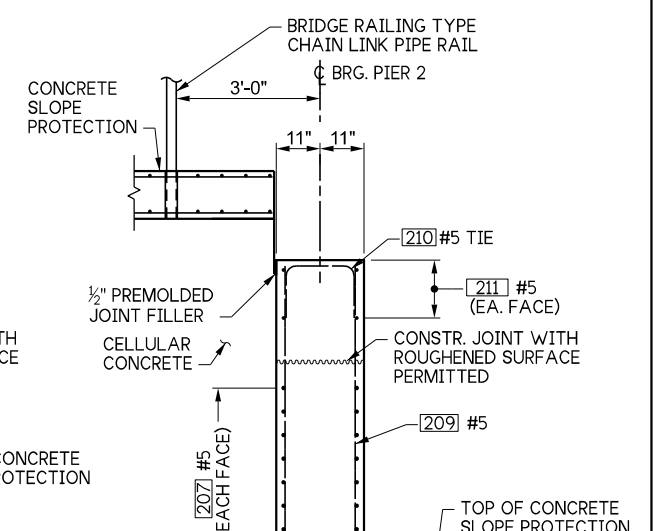
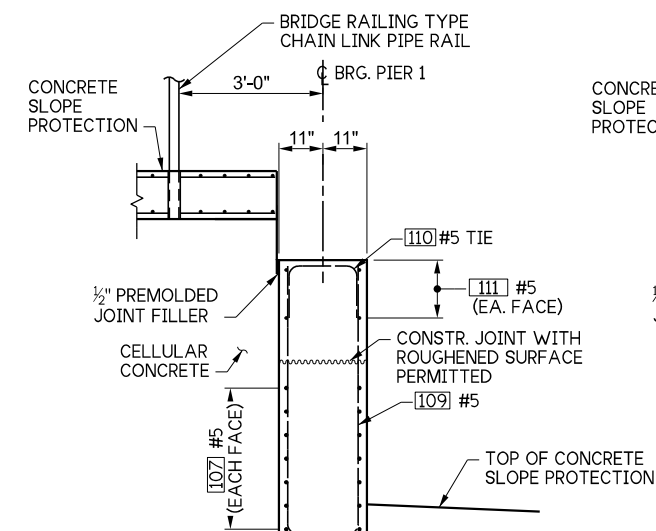
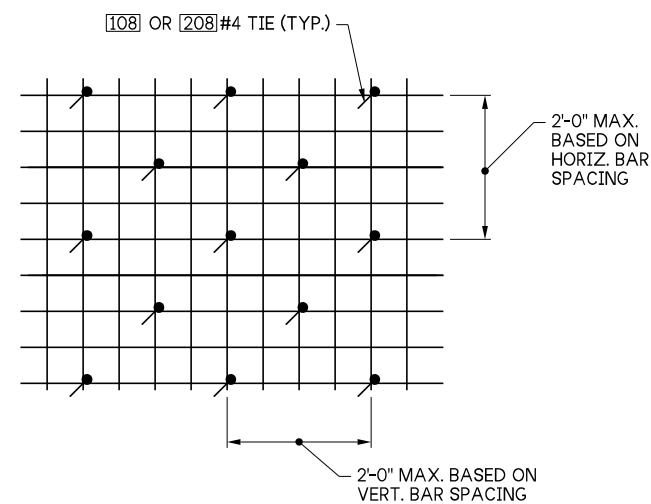
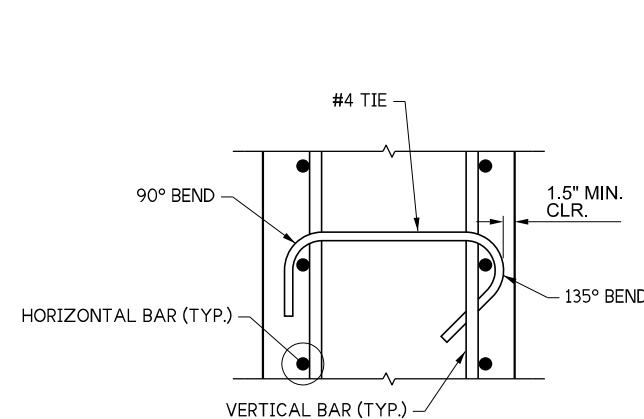
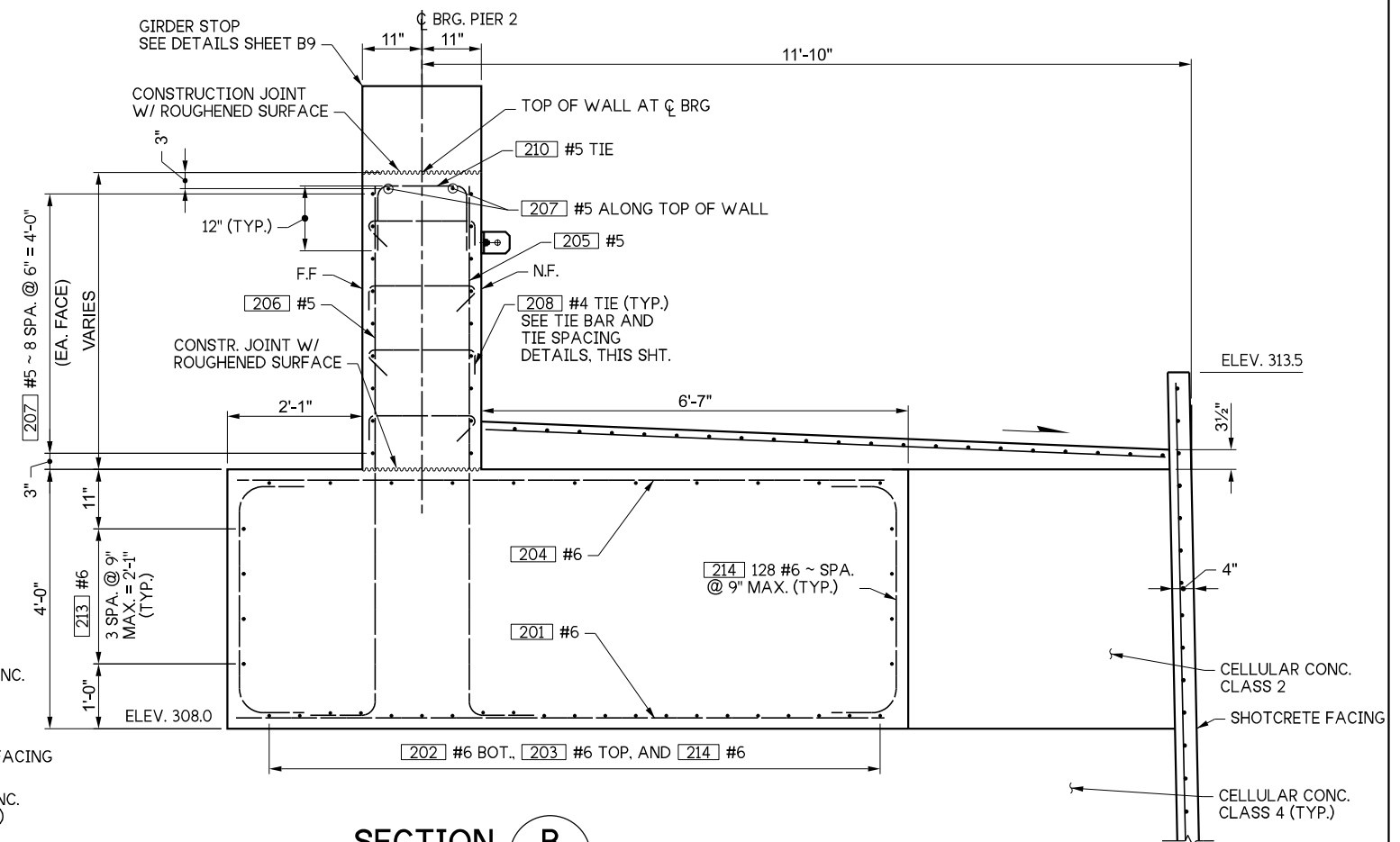
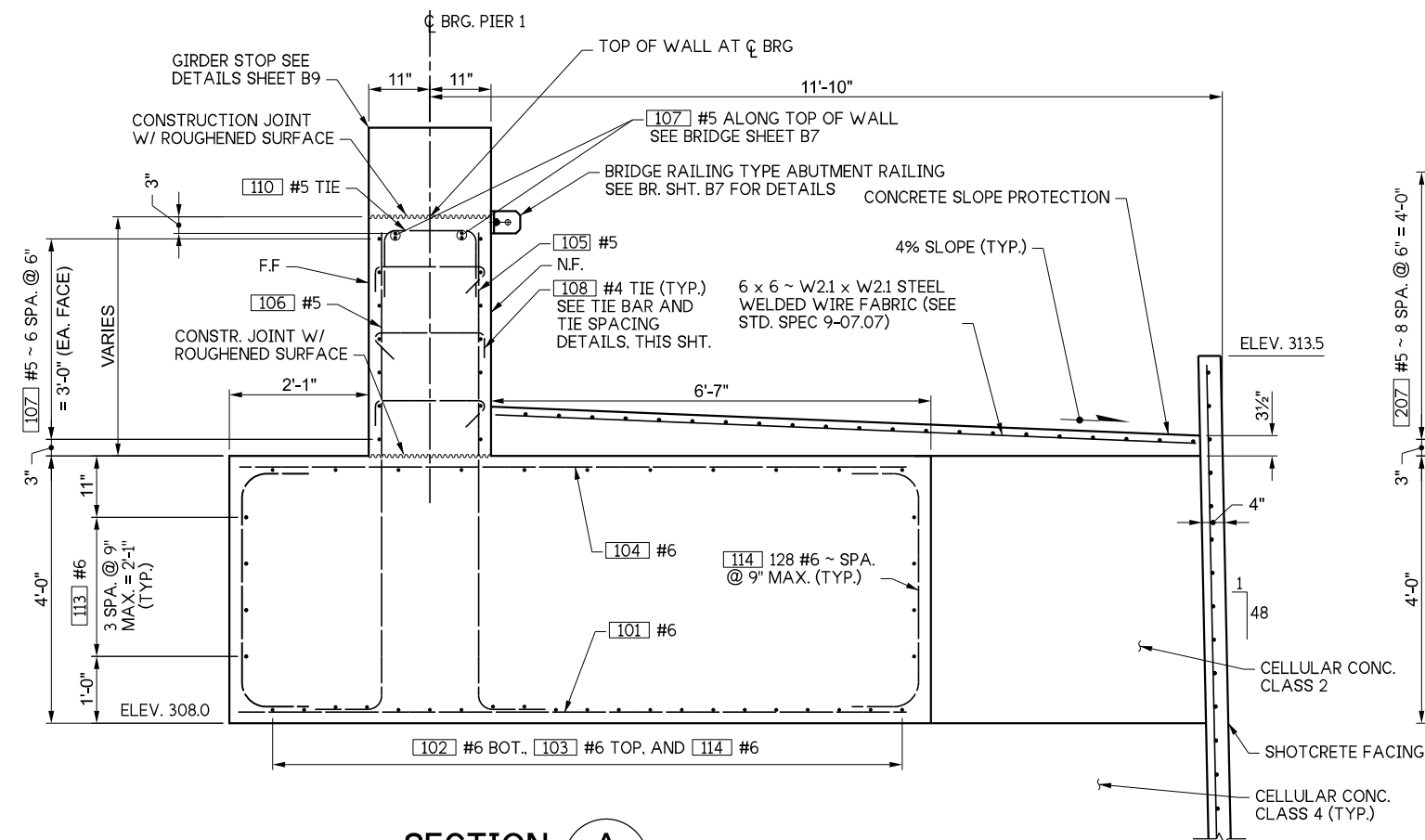
- ALL ELEVATIONS ARE AT TOP OF PIER WALL AT  $\phi$  OF BEARING.
- FOR BRIDGE RAILING TYPE CHAIN LINK PIPE RAIL DETAILS. SEE BR. SHT. B32.
- SEE BR. SHT. B7 FOR "BRIDGE RAILING TYPE ABUTMENT RAILING" DETAILS.

FILE PATH / NAME	c:\users\deboejak\pw_wsdot\d0474010\09 PIER 02 ELEVATION.dgn		
BRIDGE DES. ENG.	KHALEGHI, B		
BRIDGE PROJ. ENG.			
SUPERVISOR	ZELDENRUST, R		
DESIGNED BY	BONDY, T		
CHECKED BY	BARKLEY, J		
ENTERED BY	DEBOER, J		
PRELIM. PLAN BY			
ARCH. / SPEC.			
PLOT DATE: 1/5/2023	PLOT TIME: 4:41:56 PM	PLOTTED BY: deboejak	

REGION NO.	STATE
10	WASH
JOB NUMBER	22A033
CONTRACT NO.	

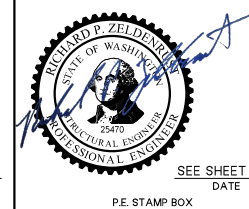
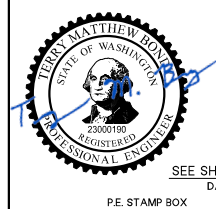


SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3		PLAN REF NO B9
PIER 2 ELEVATION		SHEET 49 OF 95 SHEETS



BRIDGE SHEET	FILE PATH / NAME c:\users\deboejak\pw_wsdot\d0474010\10 PIER DETAILS.dgn				
	BRIDGE DES. ENG.	KHALEGHI, B			
	BRIDGE PROJ. ENG.				
	SUPERVISOR	ZELDENRUST, R			
	DESIGNED BY	BONDY, T			
	CHECKED BY	BARKLEY, J			
	ENTERED BY	DEBOER, J			
	PRELIM. PLAN BY				
SR	ARCH. / SPEC.		REVISION	DATE	BY

REGION NO.	STATE
10	WASH
JOB NUMBER	
22A033	
CONTRACT NO.	



SR 542  
SQUALICUM CRK TO BELLINGHAM BAY  
FISH PASSAGE

## PIER DETAILS

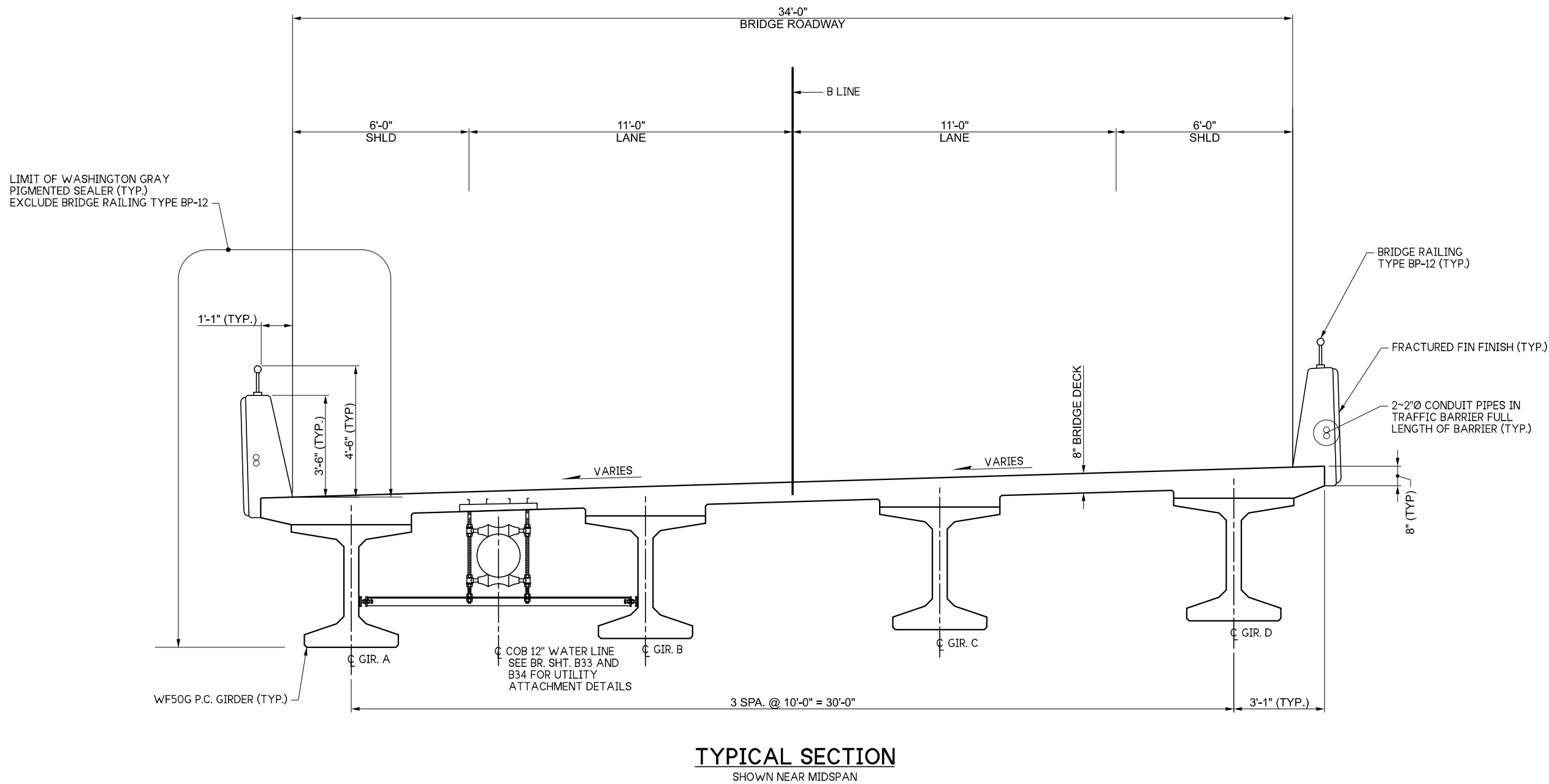
PLAN REF NO
<b>B10</b>
SHEET 50 OF 95 SHEETS





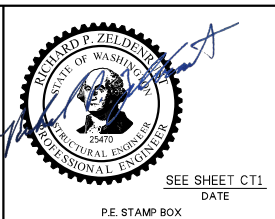
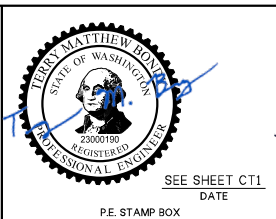


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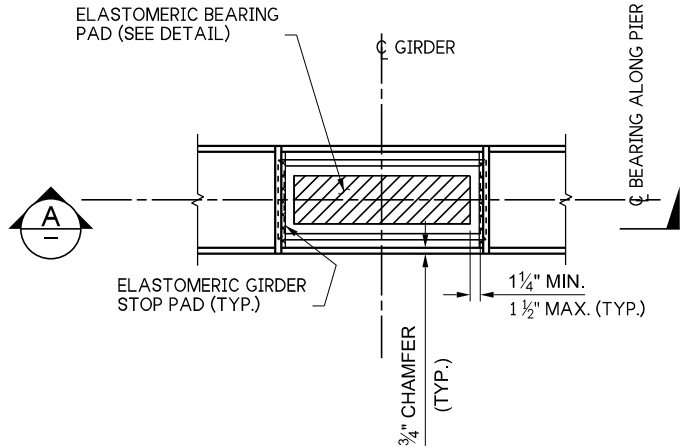


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BRIDGE DES. ENG.	KHALEGI, B			
BRIDGE PROJ. ENG.				
SUPERVISOR	ZELDENRUST, R			
DESIGNED BY	BONDY, T			
CHECKED BY	BARKLEY, J			
ENTERED BY	DEBOER, J			
PRELIM. PLAN BY				
ARCH. / SPEC.				
PLOT DATE: 1/5/2023	PLOT TIME: 4:42:16 PM	PLOTTED BY: deboejak		
	REVISION	DATE	BY	

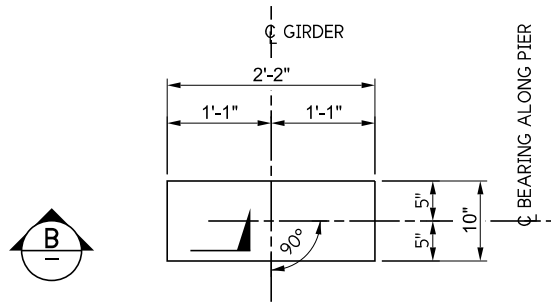
REGION NO.	STATE
10	WASH
JOB NUMBER	
22A033	
CONTRACT NO.	



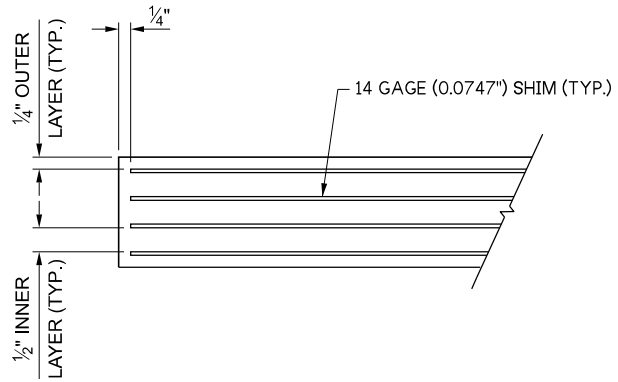
SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3	PLAN REF NO B13
TYPICAL SECTION	SHEET 53 OF 95 SHEETS



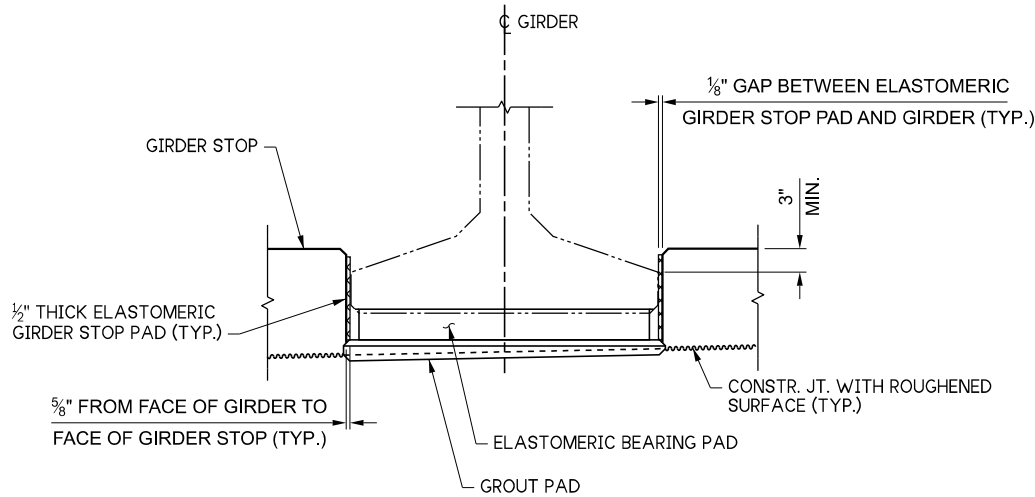
GROUT PAD DETAIL  
GIRDER NOT SHOWN FOR CLARITY



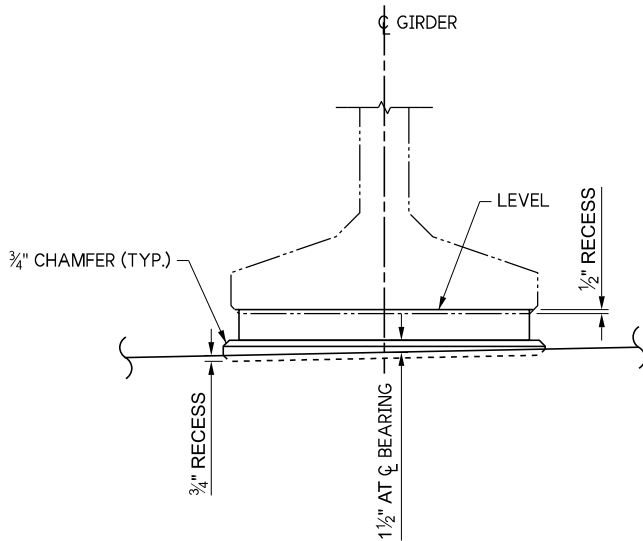
ELASTOMERIC BEARING PAD  
LAMINATED ELASTOMERIC BEARING PAD (4 SHIMS)



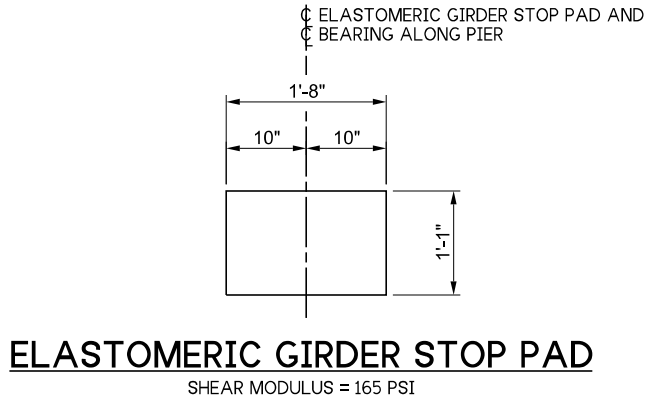
SECTION B



SECTION A



GROUT PAD ELEVATION



ELASTOMERIC GIRDER STOP PAD

SHEAR MODULUS = 165 PSI

BEARING DESIGN TABLE	
AASHTO METHOD B DESIGN	
SERVICE - I LIMIT STATE	
DEAD LOAD (DL) REACTION	143 KIPS
LIVE LOAD REACTION (W/O IMPACT)	49 KIPS
UNLOADED HEIGHT	2.30 IN
LOADED HEIGHT (DL)	2.27 IN
SHEAR MODULUS	165 PSI

NOTES:

- GIRDER STOPS SHALL BE CONSTRUCTED AFTER GIRDER PLACEMENT.
- THE ELASTOMERIC GIRDER STOP PADS SHALL BE BONDED TO THE GIRDER STOPS WITH AN APPROVED ADHESIVE.

FILE PATH / NAME	c:\users\deboejak\pw_wsdot\0474010\14 I GIRDER BEARING DETAILS.dgn		
BRIDGE DES. ENG.	KHALEGI, B		
BRIDGE PROJ. ENG.			
SUPERVISOR	ZELDENRUST, R		
DESIGNED BY	BONDY, T		
CHECKED BY	BARKLEY, J		
ENTERED BY	DEBOER, J		
PRELIM. PLAN BY			
ARCH. / SPEC.			
PLOT DATE: 1/5/2023	PLOT TIME: 4:42:21 PM	PLOTTED BY: deboejak	

REGION NO.	STATE
10	WASH
JOB NUMBER	22A033
CONTRACT NO.	



SEE SHEET CT1  
DATE  
P.E. STAMP BOX



SEE SHEET CT1  
DATE  
P.E. STAMP BOX




SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3	
I GIRDER BEARING DETAILS	

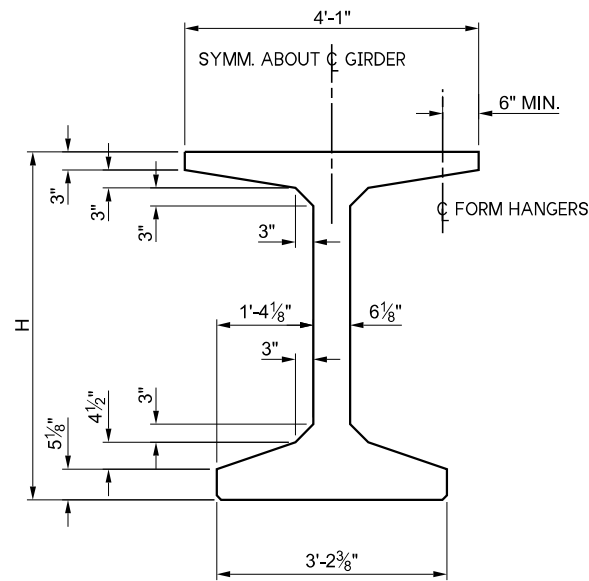
PLAN REF NO	B14
SHEET 54 OF 95 SHEETS	

SR  
BRIDGE SHEET  
OF  
FILE NO.

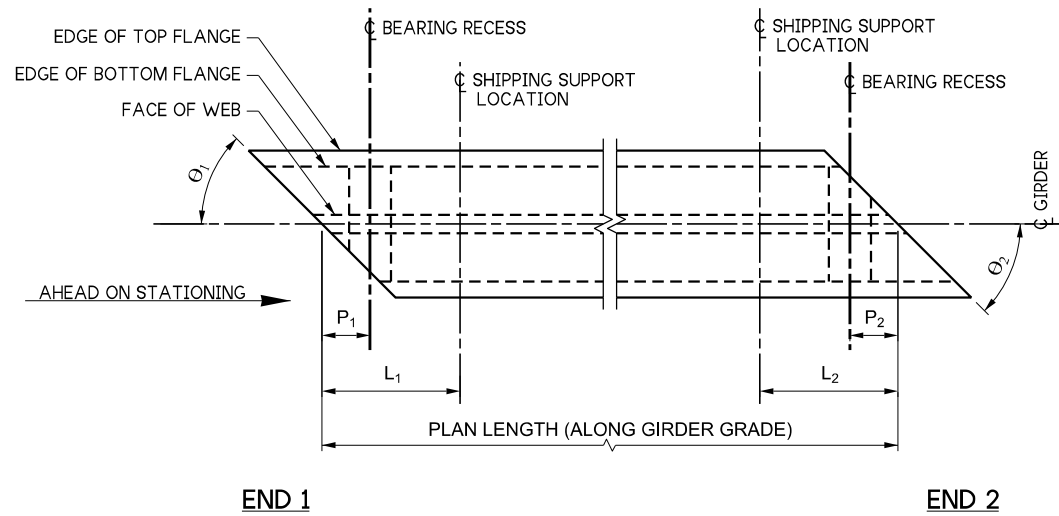
GIRDER SCHEDULE																																												
GIRDER	GIRDER SERIES	PLAN LENGTH (ALONG GIRDER GRADE) (SEE GIRDER NOTE 1)	INT. DIAPHRAGM TYPE (FULL OR PARTIAL)	GIRDER END DETAILS						MIN. CONC. COMP. STRENGTH		NUMBER OF STRANDS (SEE GIRDER NOTE 2)			LOCATION OF C.G. STRANDS			STRAIGHT STRANDS TO EXTEND				"A" DIMENSION AT $\zeta$ BEARINGS	DECK SCREED CAMBER C	MIDSPAN VERTICAL DEFLECTION D		REINFORCEMENT DETAILS												SHIPPING AND HANDLING DETAILS						
				END 1 TYPE	END 2 TYPE	$\Theta_1$	$\Theta_2$	$P_1$	$P_2$	@ 28 DAYS F'C (KSI)	@ RELEASE F'CI (KSI)	STRAIGHT	HARPED	TEMPORARY	F	$F_c$	$F_o$	END 1		END 2						ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	H1	MAXIMUM MIDSPAN VERTICAL DEFLECTION AT SHIPPING	L	$L_1$	$L_2$	$K_\Theta$ MINIMUM SHIPPING SUPPORT ROTATIONAL SPRING CONSTANT (KIP-IN/RAD)	$W_{cc}$ MINIMUM SHIPPING SUPPORT CNTR.-TO-CNTR. WHEEL SPACING						
																		STRANDS	EXTENSION LENGTH	STRANDS	EXTENSION LENGTH																							
																								LOWER BOUND @ 40 DAYS	UPPER BOUND @ 120 DAYS														SPACING	LENGTH	SPACING	LENGTH	SPACING	LENGTH
A-D	WF50G	102'-9"	PARTIAL	A	A	90°	90°	1'-3½"	1'-3½"	8.1	6.5	34	10	2	3.125"	4"	8"	① TO ④	1'-9"	① TO ④	1'-9"	14.5"	2.0"	2½"	47⁄8"	3"	2'-6"	4"	4'-8"	6"	2'-0"	9"	13'-6"	12"	14'-0"	18"	TO MID SPAN	5'-8.0"	4.875"	3'-0"	4'-2"	4'-2"	40,000	6'-0"

- GIRDER NOTES:**
- PLAN LENGTH SHALL BE INCREASED AS NECESSARY TO COMPENSATE FOR SHORTENING DUE TO PRESTRESS AND SHRINKAGE.
  - ALL PRETENSIONED AND TEMPORARY STRANDS SHALL BE 0.6"Ø AASHTO M203 GRADE 270 LOW RELAXATION STRANDS, JACKED TO 202.5 KSI (43.9 KIPS PER STRAND).

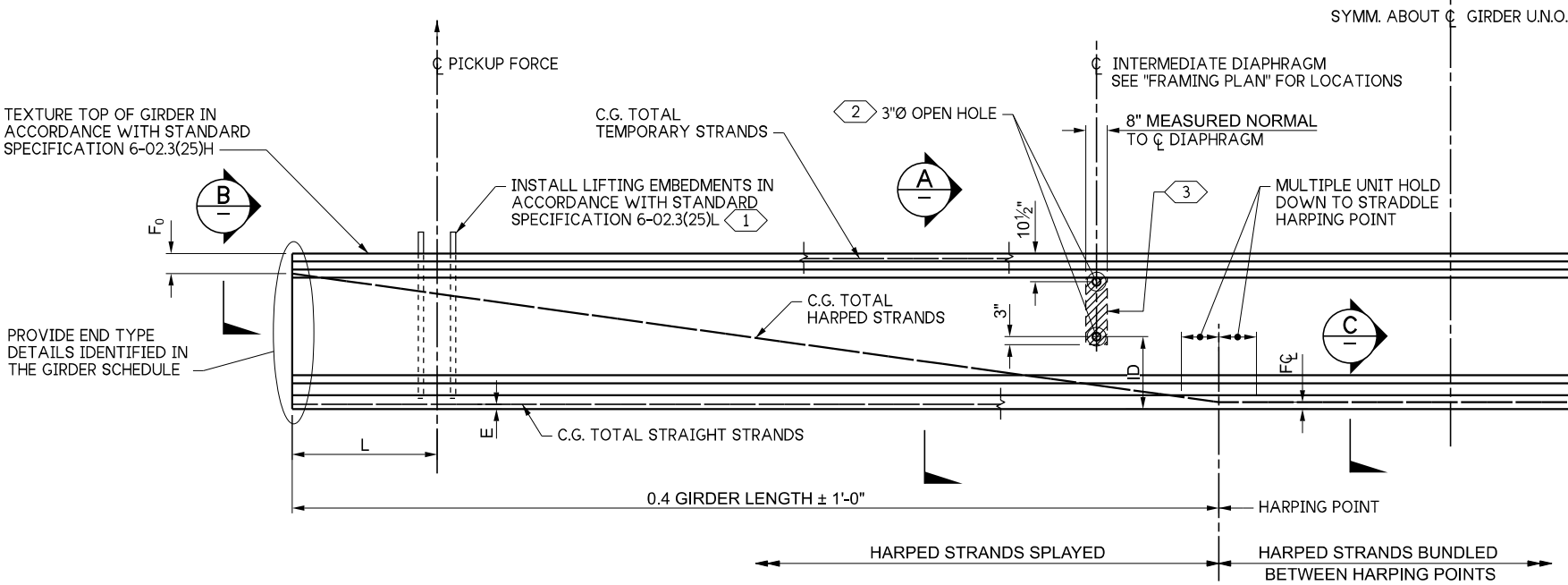
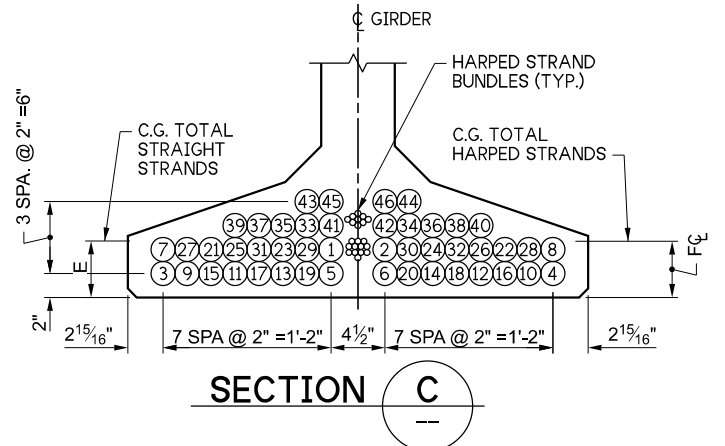
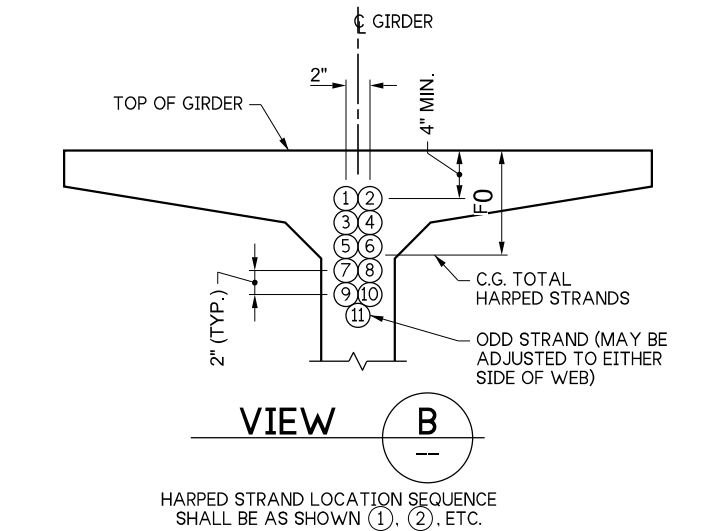
BRIDGE SHEET	FILE PATH / NAME c:\users\deboejak\pw_wsdot\0474010\15 WF50G GIRDER DETAILS 1 OF 5.dgn				REGION NO.	STATE				SR 542		PLAN REF NO
	BRIDGE DES. ENG. KHALEGHI, B				10	WASH				SQUALICUM CRK TO BELLINGHAM BAY		B15
	BRIDGE PROJ. ENG.									FISH PASSAGE		
	SUPERVISOR ZELDENRUST, R				JOB NUMBER					SQUALICUM CREEK BRIDGE 542/3		
	DESIGNED BY BONDY, T				22A033							SHEET
	CHECKED BY BARKLEY, J				CONTRACT NO.							OF
	ENTERED BY DEBOER, J											95
	PRELIM. PLAN BY									WF50G GIRDER DETAILS 1 OF 5		SHEETS
	ARCH. / SPEC.				REVISION							
	PLOT DATE: 1/5/2023				PLOT TIME: 4:42:25 PM					PLOTTED BY: deboejak		



SECTION A  
REINFORCEMENT AND STRANDS NOT SHOWN



GIRDER PLAN



GIRDER ELEVATION

GIRDER SERIES	H GIRDER HEIGHT	ID PARTIAL DEPTH INT. DIAPHRAGM	ID FULL DEPTH INT. DIAPHRAGM
WF36G	3'-0"	1'-2 1/8"	1'-2 1/8"
WF42G	3'-6"	1'-6"	1'-2 1/8"
WF50G	4'-2"	1'-9 1/2"	1'-2 1/8"
WF58G	4'-10"	2'-3"	1'-2 1/8"
WF66G	5'-6"	2'-4 3/4"	1'-2 1/8"
WF74G	6'-2"	2'-8"	1'-2 1/8"
WF83G	6'-10 3/8"	2'-1 5/8"	1'-2 1/8"
WF95G	7'-10 1/2"	3'-1 1/2"	1'-2 1/8"
WF100G	8'-4"	2'-8"	1'-2 1/8"

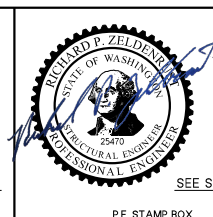
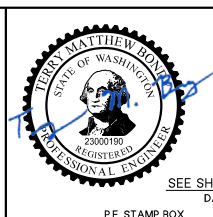
### KEY NOTES:

- REMOVE TO TOP OF GIRDER AFTER ERECTION.
- ADJUST HOLE LOCATION VERTICALLY TO MISS HARPED STRANDS. OMIT HOLES AND PLACE INSERTS ON THE INTERIOR FACE OF EXTERIOR GIRDERS. PLACE HOLES AND INSERTS PARALLEL TO DIAPHRAGM CENTERLINE. INSERTS SHALL BE 1"Ø MEADOWBURKE MX-3 HI-TENSILE, 1"Ø MEADOWBURKE FX-19 FERRULE INSERT, 1"Ø x 5 1/2" WILLIAMS F22 OPEN FERRULE INSERT, 1"Ø x 4 5/8" DAYTON-SUPERIOR F-62 FLARED THIN SLAB FERRULE INSERT OR APPROVED EQUAL.
- APPLY APPROVED RETARDANT FOR 1/4" ETCH TO SIDE FORMS OR 1/4" ROUGHENED SURFACE TREATMENT BY APPROVED MECHANICAL METHOD. OMIT AT EXTERIOR FACE OF EXTERIOR GIRDERS.

SR  
BRIDGE SHEET  
OF  
FILE NO.

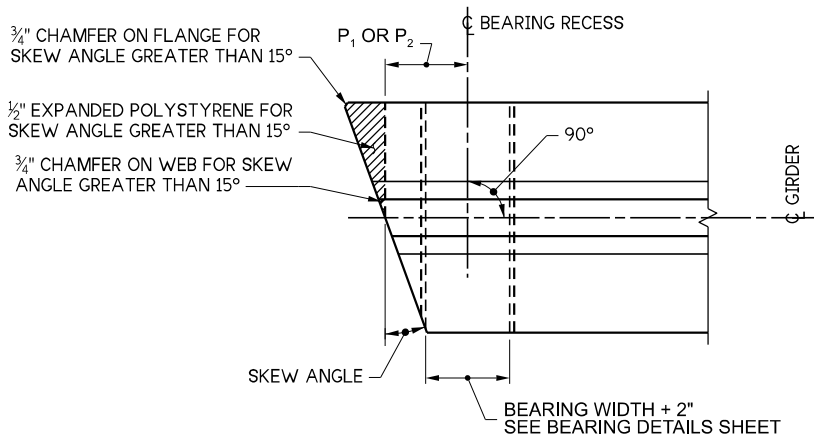
FILE PATH / NAME	c:\users\deboejak\pw_wsdot\0474010\16 WF50G GIRDER DETAILS 2 OF 5.dgn
BRIDGE DES. ENG.	KHALEGHI, B
BRIDGE PROJ. ENG.	
SUPERVISOR	ZELDENRUST, R
DESIGNED BY	BONDY, T
CHECKED BY	BARKLEY, J
ENTERED BY	DEBOER, J
PRELIM. PLAN BY	
ARCH. / SPEC.	
PLOT DATE: 1/5/2023	PLOT TIME: 4:42:30 PM
PLOTTED BY: deboejak	

REGION NO.	STATE
10	WASH
JOB NUMBER	22A033
CONTRACT NO.	

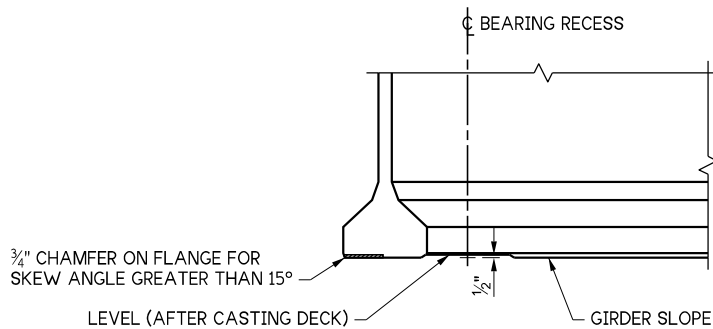


SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3	PLAN REF NO B16
WF50G GIRDER DETAILS 2 OF 5	SHEET 56 OF 95 SHEETS

SR  
BRIDGE SHEET  
OF  
FILE NO.



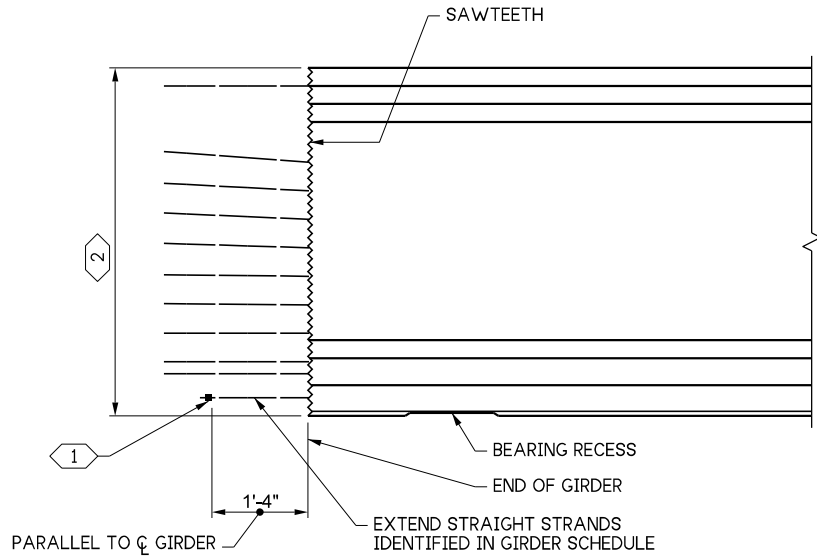
PLAN



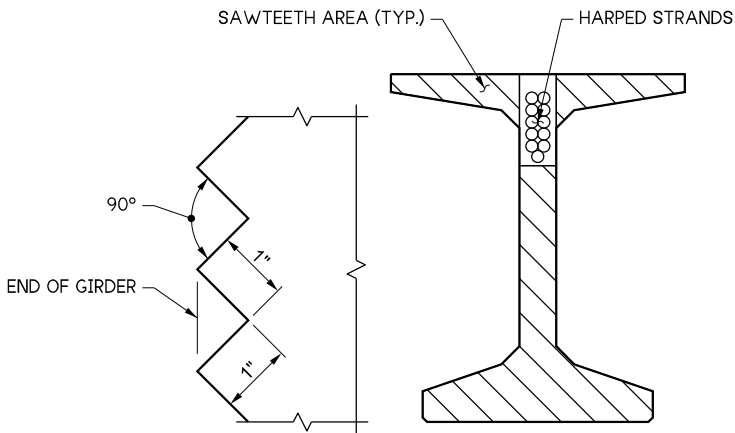
ELEVATION

### BEARING RECESS AND BOTTOM FLANGE SPALL PROTECTION DETAIL

BEARING RECESS FORMS SHALL BE CONSTRUCTED AND FASTENED TO AVOID GIRDER DAMAGE DURING STRAND RELEASE



END TYPE A



### SAWTEETH DETAIL

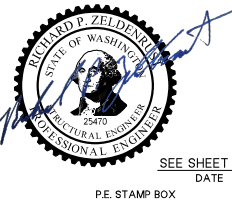
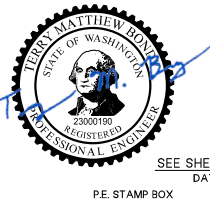
SAWTEETH SHALL BE FULL WIDTH OVER AREA SHOWN

### KEY NOTES:

- 1 1 1/16" Ø MIN. STRAND CHUCK OR ASTM A108 2 3/4" Ø x 1 1/8" STRAND ANCHOR. ANCHOR STRAND WITH WEDGES BEFORE GIRDER ERECTION. VERIFY WEDGES ARE SEATED TIGHTLY IMMEDIATELY BEFORE PLACING DIAPHRAGM CONCRETE.
- 2 CUT ALL STRANDS FLUSH WITH THE GIRDER ENDS AND PAINT WITH AN APPROVED EPOXY RESIN, EXCEPT FOR EXTENDED STRANDS AS SHOWN.

FILE PATH / NAME	c:\users\deboejak\pw_wsdot\0474010\17 WF50G GIRDER DETAILS 3 OF 5.dgn
BRIDGE DES. ENG.	KHALEGI, B
BRIDGE PROJ. ENG.	
SUPERVISOR	ZELDENRUST, R
DESIGNED BY	BONDY, T
CHECKED BY	BARKLEY, J
ENTERED BY	DEBOER, J
PRELIM. PLAN BY	
ARCH. / SPEC.	
PLOT DATE: 1/5/2023	PLOT TIME: 4:42:35 PM
PLOTTED BY: deboejak	

REGION NO.	STATE
10	WASH
JOB NUMBER	22A033
CONTRACT NO.	



SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3
WF50G GIRDER DETAILS 3 OF 5

PLAN REF NO
B17
SHEET 57 OF 95 SHEETS



GIRDER SERIES	NO. OF [G5] BARS
WF36G	3
WF42G	4
WF50G	5
WF58G	6
WF66G	7
WF74G	7
WF83G	8
WF95G	9
WF100G	10

GIRDER SERIES  
REINFORCEMENT TABLE

REINFORCEMENT NOTES:

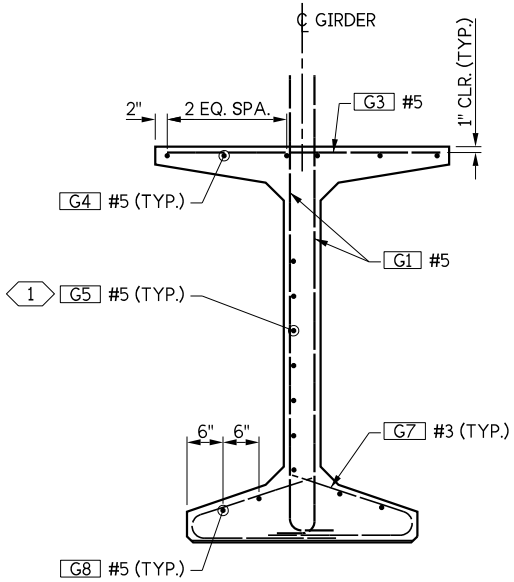
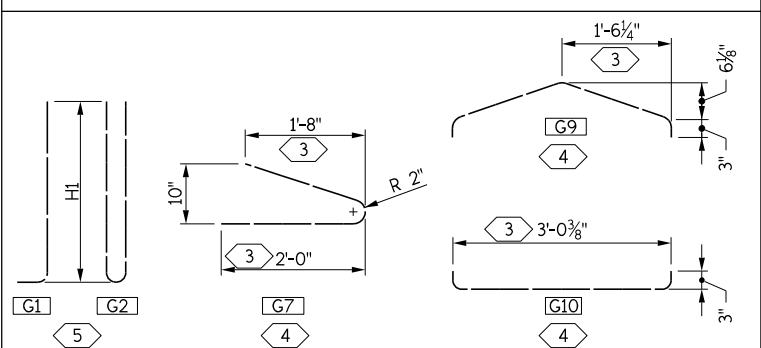
1. DEFORMED WELDED WIRE REINFORCEMENT MAY BE SUBSTITUTED FOR MILD REINFORCEMENT IN ACCORDANCE WITH STANDARD SPECIFICATION 6-02.3(25)A.

KEY NOTES:

- 1 SEE 'GIRDER SERIES REINFORCEMENT TABLE' ON THIS SHEET.
- 2 FIELD BEND [G4] TO OBTAIN 1½" COVER AT PAVEMENT SEAT IF NECESSARY. DO NOT EXTEND AND PROVIDE 1½" CLR. TO GIRDER END FOR END TYPE B.
- 3 VARIES FOR SKEWED ENDS.
- 4 PAIRS OF [G7] BARS, OR [G9] AND [G10] BARS MAY BE USED INTERCHANGEABLY AS BOTTOM FLANGE TIES.
- 5 1 [G2] MAY BE SUBSTITUED FOR 2 [G1] WITHIN ZONE 1.
- 6 PLACE 6 ADDITIONAL #5 [G2] IN ZONE 1 SPA. @ 6" MAX.

BENDING DIAGRAM

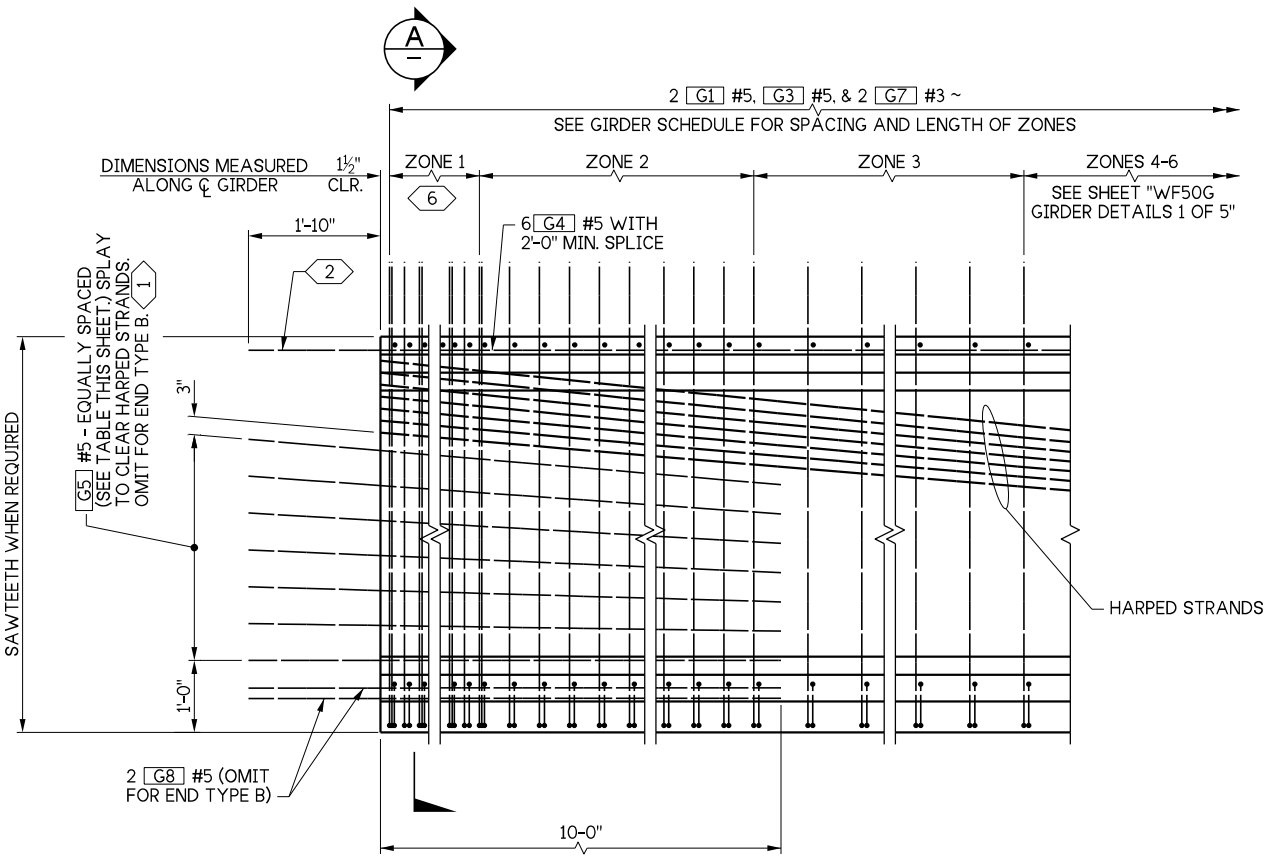
(ALL DIMENSIONS ARE OUT TO OUT)



SECTION

A

STRANDS NOT SHOWN



REINFORCEMENT END ELEVATION

STRAIGHT AND TEMPORARY STRANDS NOT SHOWN FOR CLARITY.  
WF66G SHOWN, OTHERS SIMILAR.

FILE PATH / NAME	c:\users\deboejak\pw_wsdot\d0474010\18 WF50G GIRDER DETAILS 4 OF 5.dgn				REGION NO.	STATE
BRIDGE DES. ENG.	KHALEGI, B				10	WASH
BRIDGE PROJ. ENG.					JOB NUMBER	
SUPERVISOR	ZELDENRUST, R				22A033	
DESIGNED BY	BONDY, T				CONTRACT NO.	
CHECKED BY	BARKLEY, J					
ENTERED BY	DEBOER, J					
PRELIM. PLAN BY						
ARCH. / SPEC.					REVISION	DATE BY

PLOT DATE: 1/5/2023 PLOT TIME: 4:42:39 PM PLOTTED BY: deboejak



SEE SHEET CT1  
DATE

P.E. STAMP BOX



SEE SHEET CT1  
DATE

P.E. STAMP BOX

SR 542  
SQUALICUM CRK TO BELLINGHAM BAY  
FISH PASSAGE

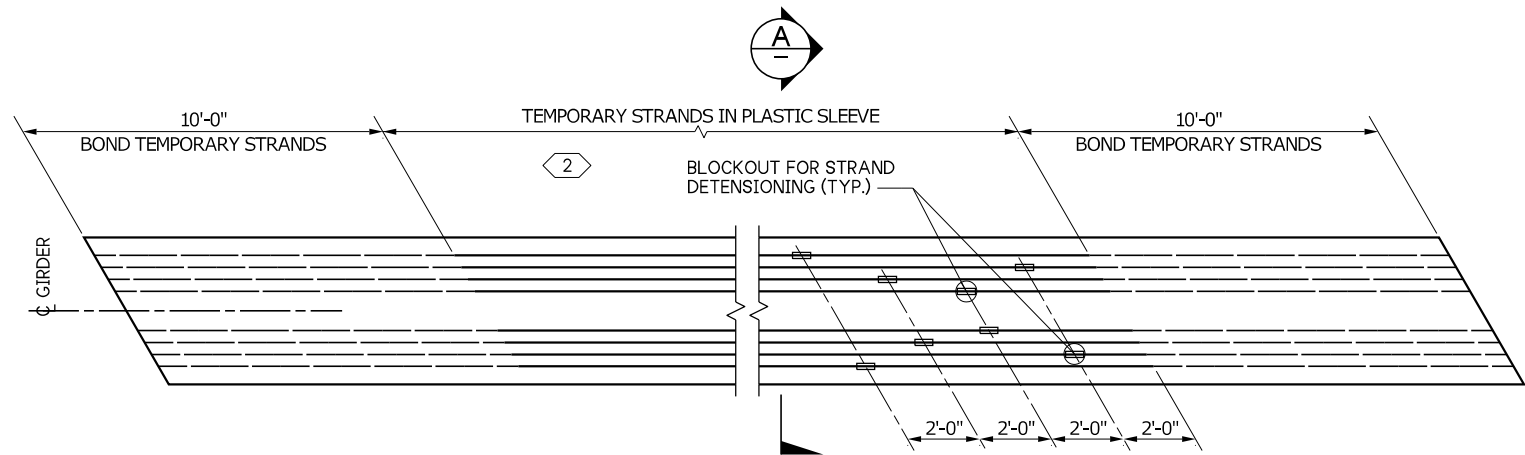
SQUALICUM CREEK BRIDGE 542/3

WF50G GIRDER DETAILS 4 OF 5

PLAN REF NO

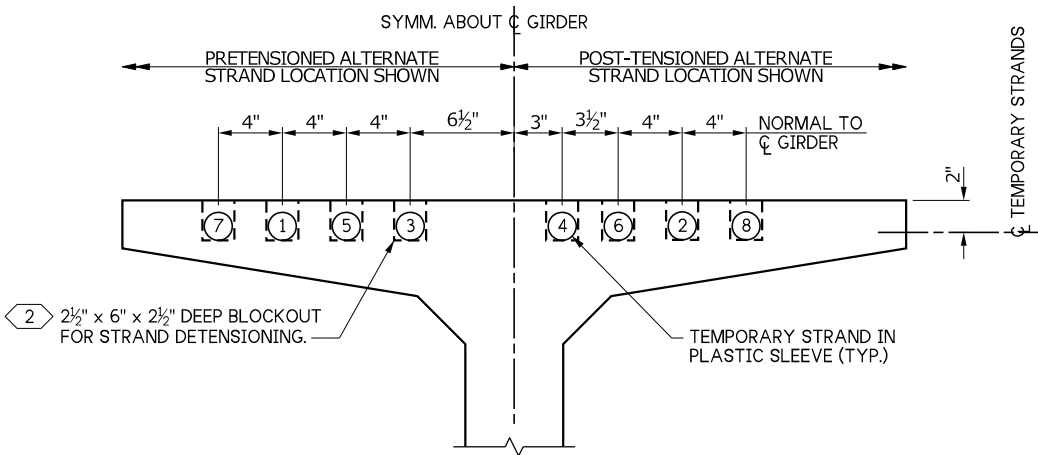
B18

SHEET  
58  
OF  
95  
SHEETS



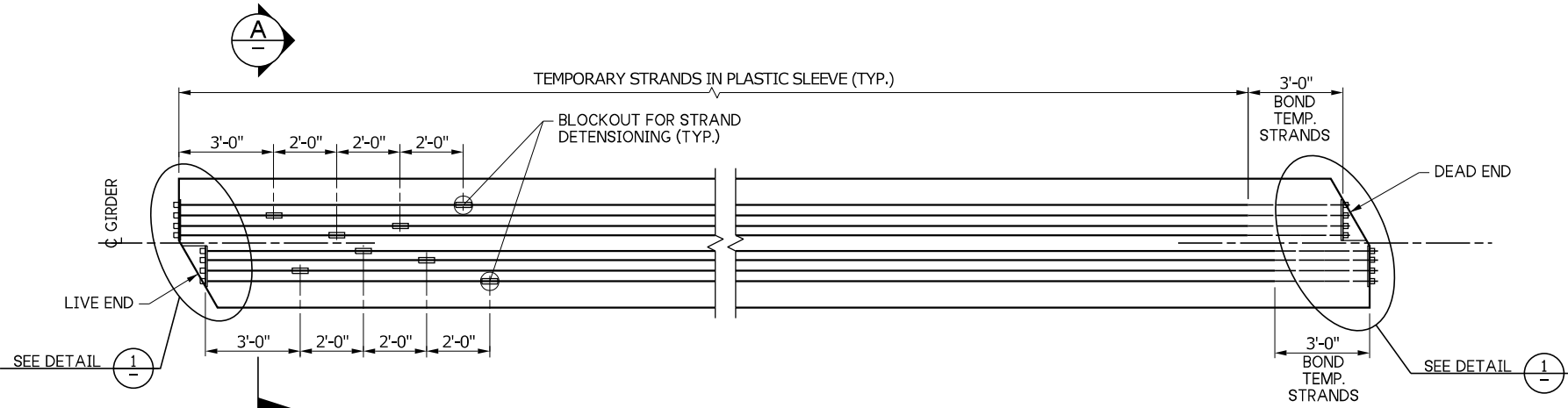
**PLAN - TEMPORARY TOP STRANDS  
PRETENSIONED ALTERNATE**

SEE GIRDER SCHEDULE FOR NUMBER OF TEMPORARY STRANDS REQUIRED.



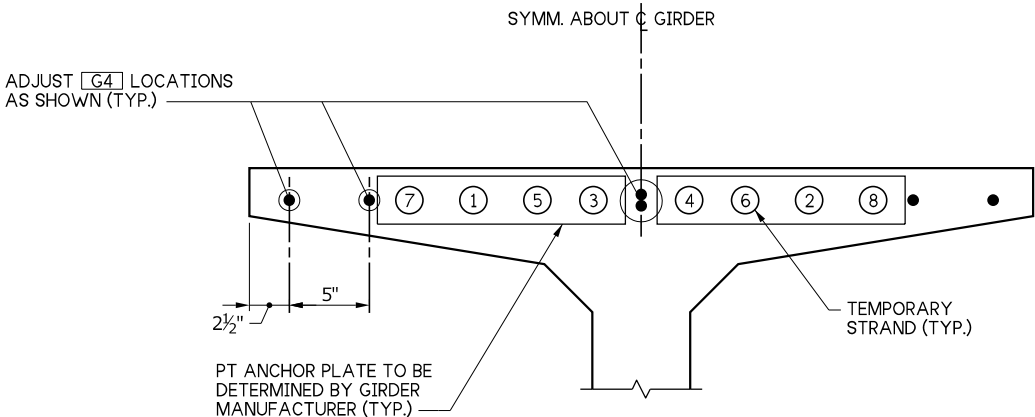
**SECTION A**

TEMPORARY STRAND LOCATION SEQUENCE  
SHALL BE AS SHOWN ①, ② ETC.

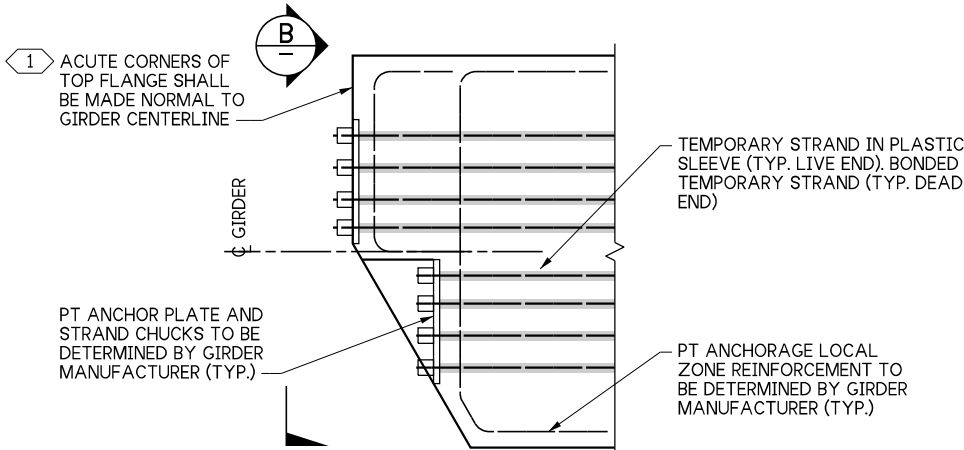


**PLAN - TEMPORARY TOP STRANDS  
POST-TENSIONED ALTERNATE**

SEE GIRDER SCHEDULE FOR NUMBER OF TEMPORARY STRANDS REQUIRED



**VIEW B**



**DETAIL 1**

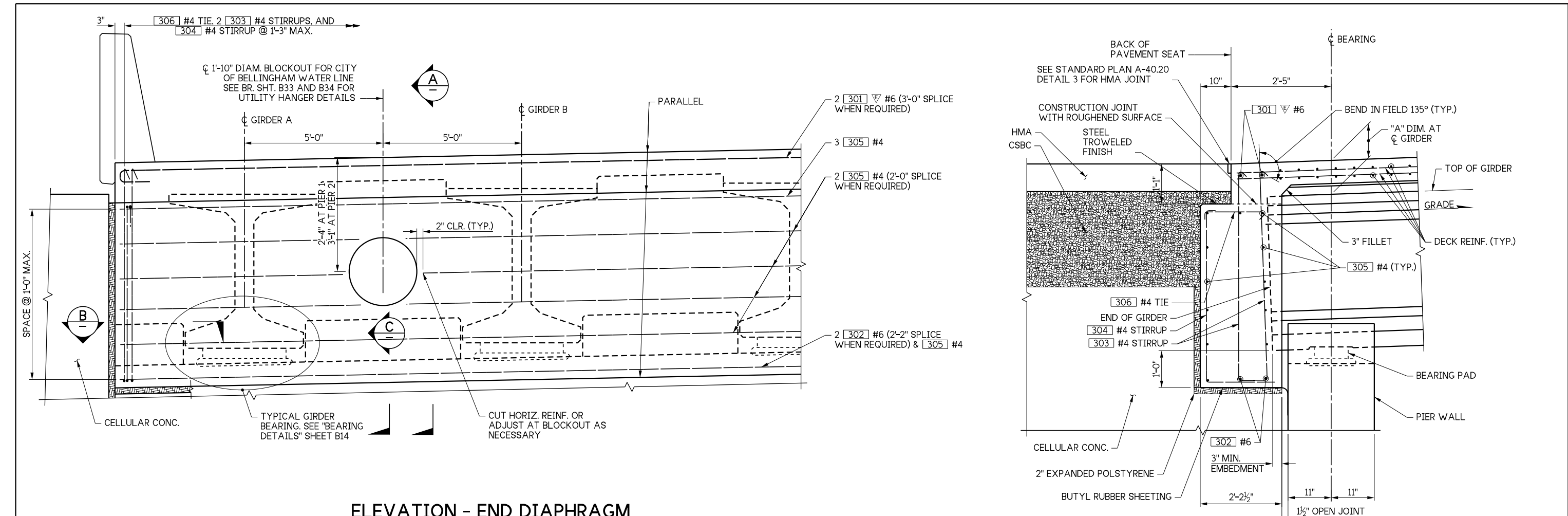
**TEMPORARY STRAND NOTES:**

- TEMPORARY STRANDS SHALL BE EITHER PRETENSIONED OR POST-TENSIONED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 6-02.3(25)B.
- FOR GIRDERS ERECTED ON A LONGITUDINAL GRADE, STRAND DETENSIONING BLOCKOUTS SHALL BE PLACED AT THE LOW END OF THE GIRDER.
- SEE "TEMPORARY STRAND CUTTING SEQUENCE" ON CONSTRUCTION SEQUENCE SHEET FOR TEMPORARY STRAND DETENSIONING PROCEDURE.

**KEY NOTES:**

- RECONFIGURE TOP FLANGE REINFORCEMENT ACCORDINGLY.
- FORM WITH EXPANDED POLYSTYRENE. REMOVE POLYSTYRENE JUST PRIOR TO CUTTING THE TEMPORARY STRANDS AND PREVENT MOISTURE FROM ENTERING THE BLOCKOUT AS DESCRIBED IN THE TEMPORARY STRAND CUTTING SEQUENCE (TYP.).

SR BRIDGE SHEET OF FILE NO.	FILE PATH / NAME c:\users\deboejak\pw_wsdot\0474010\19 WF50G GIRDER DETAILS 5 OF 5.dgn				REGION NO.	STATE				SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3		PLAN REF NO			
	BRIDGE DES. ENG. KHALEGHI, B				10	WASH				B19		SHEET 59 OF 95 SHEETS			
	BRIDGE PROJ. ENG.				JOB NUMBER										
	SUPERVISOR ZELDENRUST, R				22A033										
	DESIGNED BY BONDY, T				CONTRACT NO.										
	CHECKED BY BARKLEY, J				REVISION					DATE					
	ENTERED BY DEBOER, J														
	PRELIM. PLAN BY														
	ARCH. / SPEC.														
	PLOT DATE: 1/5/2023				PLOT TIME: 4:42:43 PM					PLOTTED BY: deboejak				WF50G GIRDER DETAILS 5 OF 5	



**ELEVATION - END DIAPHRAGM**  
DIMENSIONS ARE ALONG  $\phi$  DIAPHRAGM

**SECTION A**

**SECTION B**




**SECTION C**

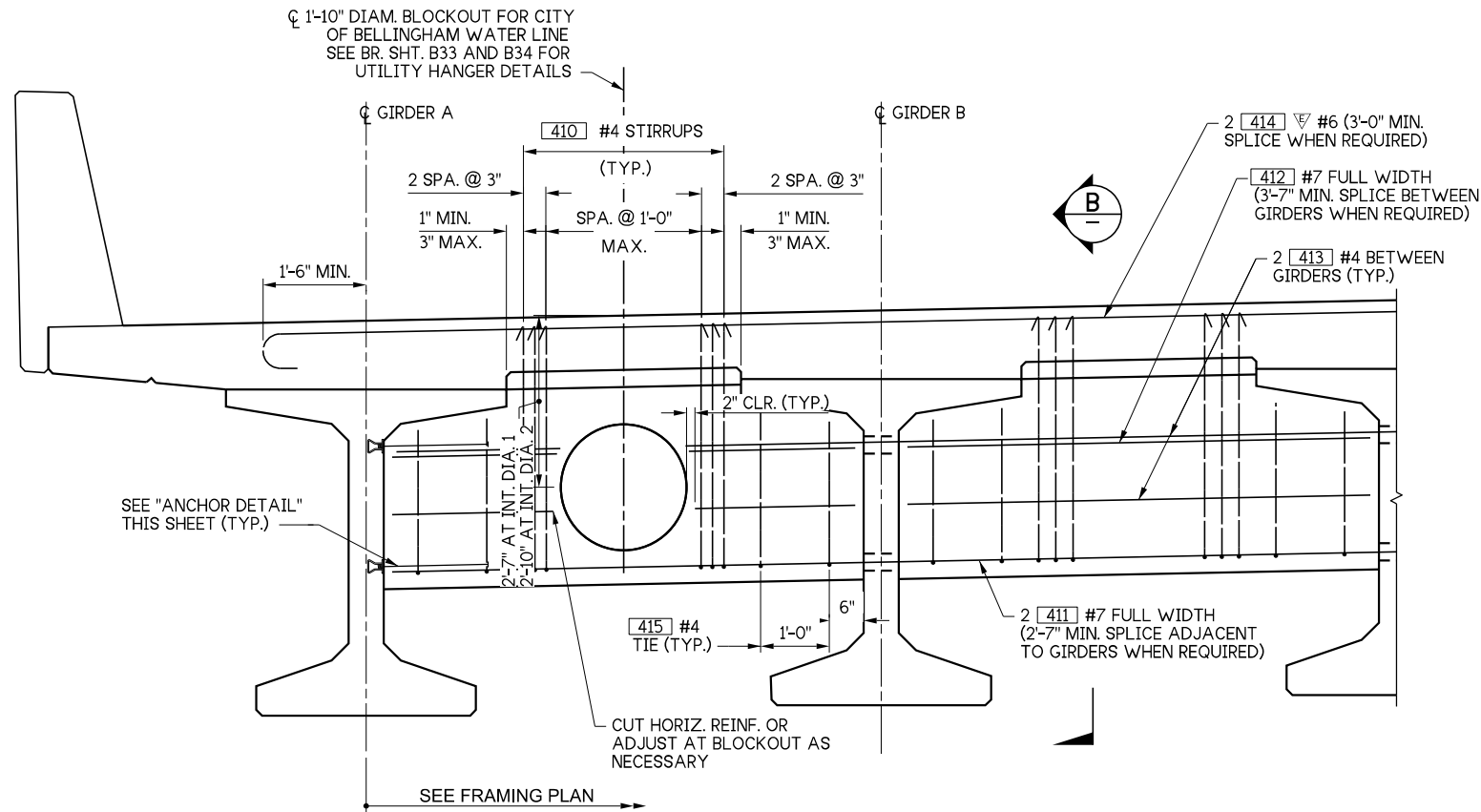
**KEY NOTES:**

1. SEE GIRDER SCHEDULE ON SHEET B15 FOR DIMENSION "A". ALL LONGITUDINAL DIMENSIONS ARE NORMAL TO PIER WALL.

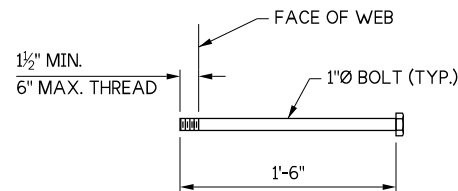
**DIAPHRAGM NOTES:**

1. GIRDERS SHALL BE HELD RIGIDLY IN PLACE WHEN DIAPHRAGMS ARE PLACED.
2. CUT/RELEASE GIRDER TEMPORARY STRANDS BEFORE CASTING DIAPHRAGM. SEE TEMPORARY STRAND CUTTING SEQUENCE.
3. EXTENDED STRANDS AND GIRDER REINFORCING NOT SHOWN FOR CLARITY.

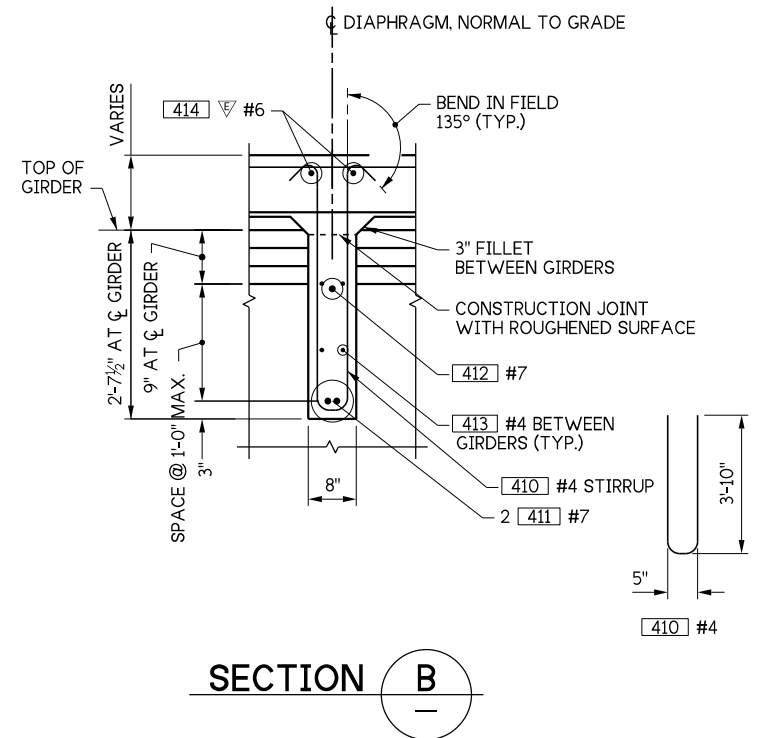
BRIDGE SHEET OF	FILE PATH / NAME c:\users\deboejak\pw_wsdot\d0474010\20 END DIAPHRAGM DETAILS.dgn				REGION NO.	STATE				SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3	PLAN REF NO			
	BRIDGE DES. ENG. KHALEGHI, B				10	WASH					B20			
	BRIDGE PROJ. ENG.				JOB NUMBER									
	SUPERVISOR ZELDENRUST, R				22A033									
	DESIGNED BY BONDY, T				CONTRACT NO.									
	CHECKED BY BARKLEY, J				END DIAPHRAGM DETAILS									
	ENTERED BY DEBOER, J													
	PRELIM. PLAN BY													
ARCH. / SPEC.				REVISION		DATE	BY	SHEET 60 OF 95 SHEETS						
PLOT DATE: 1/5/2023				PLOT TIME: 4:42:48 PM		PLOTTED BY: deboejak								



**ELEVATION**  
**PARTIAL DEPTH INTERMEDIATE DIAPHRAGM**  
DIMENSIONS ARE ALONG DIAPHRAGM



**ANCHOR DETAIL**  
ASTM A307



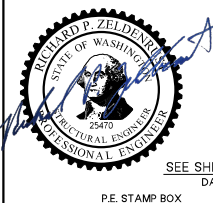
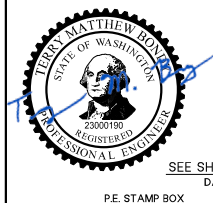
**DIAPHRAGM NOTES:**

- GIRDERS SHALL BE HELD RIGIDLY IN PLACE WHEN DIAPHRAGMS ARE PLACED.
- IT MAY BE NECESSARY TO THREAD REINFORCING BARS THROUGH HOLES IN GIRDERS PRIOR TO PLACING EXTERIOR GIRDERS.
- CUT/RELEASE GIRDER TEMPORARY STRANDS BEFORE CASTING DIAPHRAGM. SEE TEMPORARY STRAND CUTTING SEQUENCE.
- LONGITUDINAL DIMENSIONS ARE NORMAL TO SKEW.
- FOR CONCRETE PLACEMENT PROCEDURE SEE "SUPERSTRUCTURE CONSTRUCTION SEQUENCE" SHEET.

SR  
BRIDGE SHEET  
OF  
FILE NO.

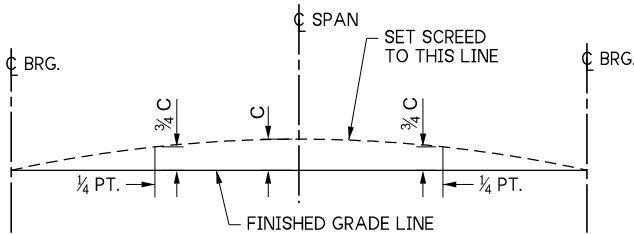
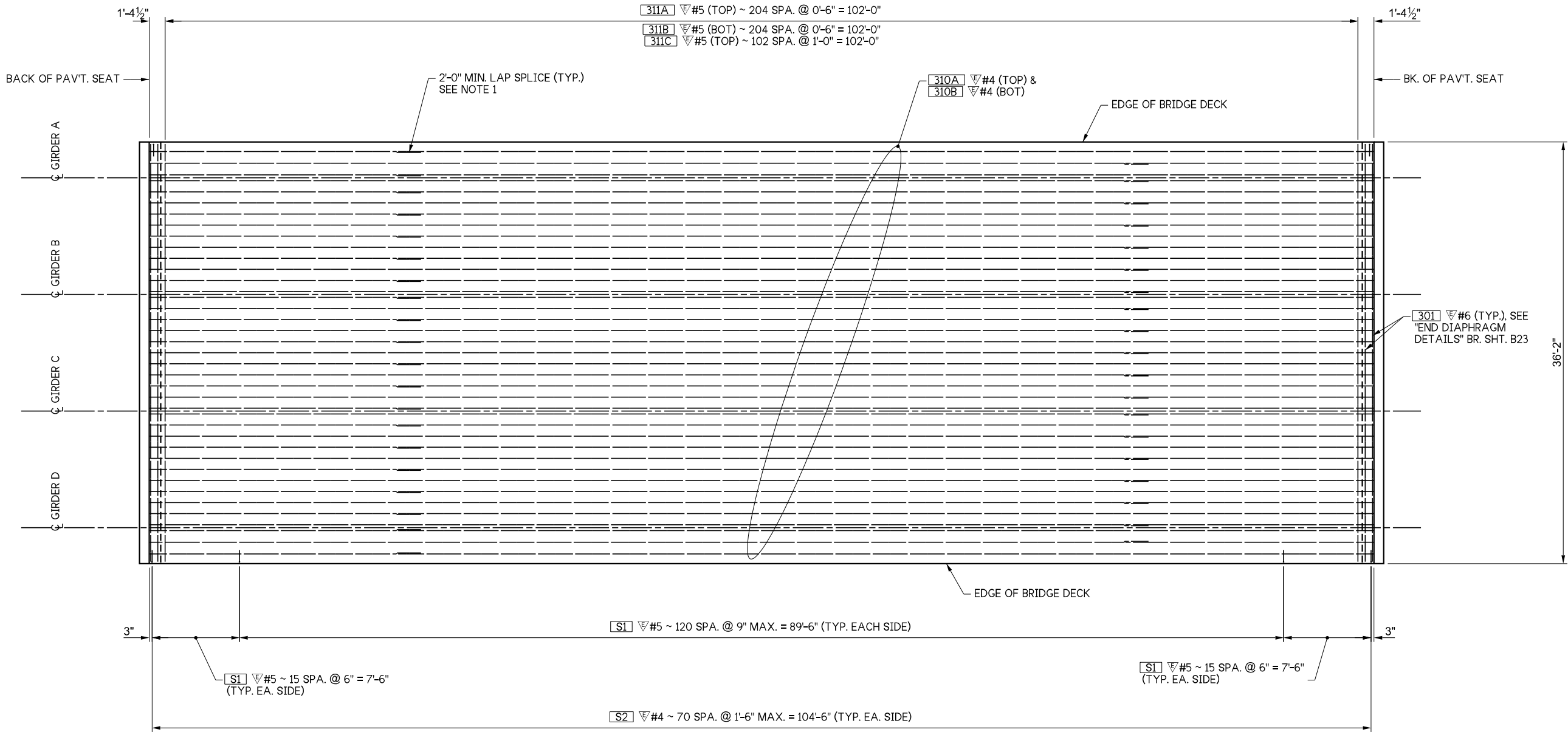
FILE PATH / NAME	c:\users\deboejak\pw_wsdot\0474010\21 PARTIAL DEPTH INT DIA DETAILS.dgn	REGION NO.	STATE
BRIDGE DES. ENG.	KHALEIGHI, B	10	WASH
BRIDGE PROJ. ENG.		JOB NUMBER	22A033
SUPERVISOR	ZELDENRUST, R	CONTRACT NO.	
DESIGNED BY	BONDY, T		
CHECKED BY	BARKLEY, J		
ENTERED BY	DEBOER, J		
PRELIM. PLAN BY			
ARCH. / SPEC.			
PLOT DATE: 1/5/2023	PLOT TIME: 4:42:53 PM	PLOTTED BY: deboejak	

REGION NO.	STATE
10	WASH
JOB NUMBER	22A033
CONTRACT NO.	



SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3	PLAN REF NO B21
PARTIAL DEPTH INTERMEDIATE DIAPHRAGM DETAILS	SHEET 61 OF 95 SHEETS




SR OF BRIDGE SHEET FILE NO.



SCREED SETTING DIMENSIONS  
FOR DIMENSION "C" SEE GIRDER SCHEDULE

BRIDGE DECK REINFORCEMENT PLAN

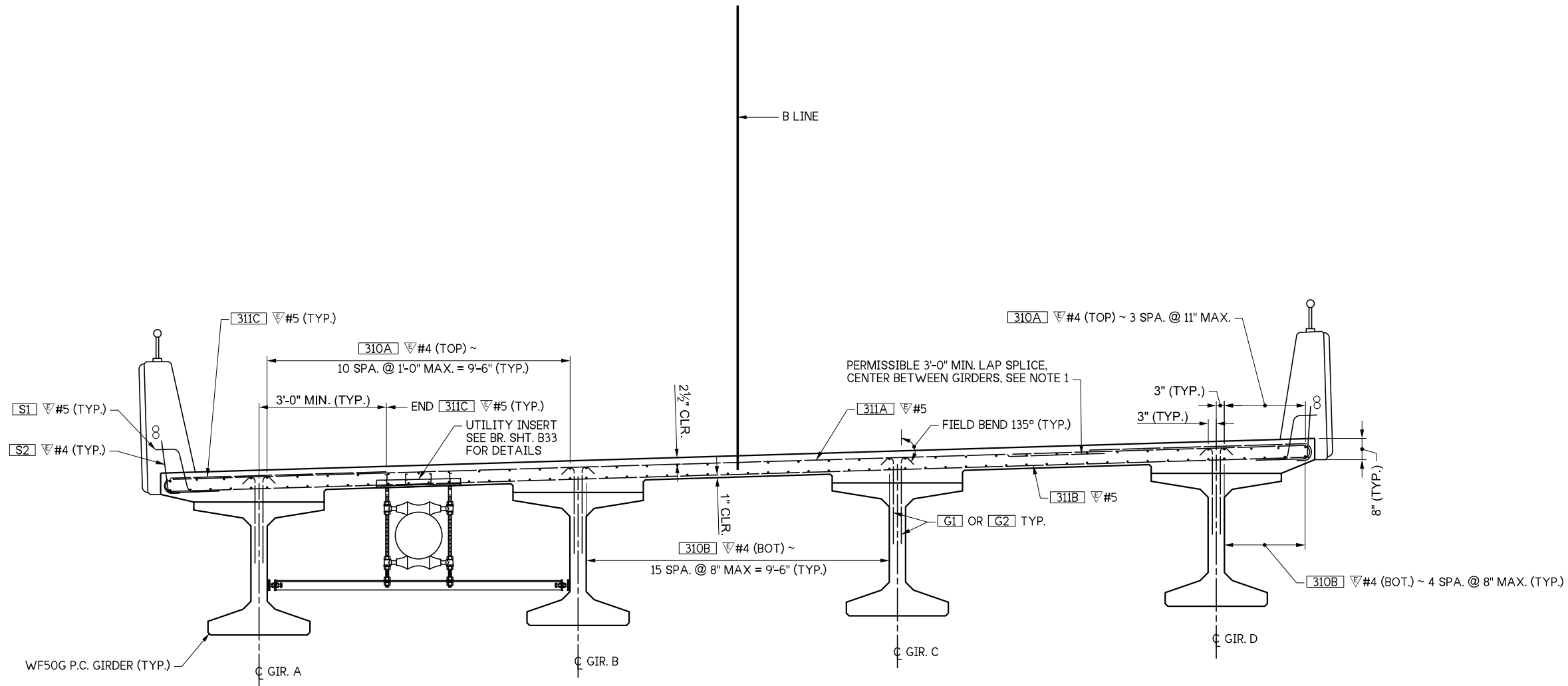
- NOTES:
- ALL SPLICES SHALL BE STAGGERED SO NOT MORE THAN 50% OF THE REBAR IS SPLICED AT THE SAME LOCATION.

SR BRIDGE SHEET	FILE PATH / NAME c:\users\deboejak\pw_wsdot\d0474010\22 BRIDGE DECK REINF PLAN.dgn				REGION NO.	STATE				SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3				PLAN REF NO
	BRIDGE DES. ENG. KHALEGI, B				10	WASH								B22
	BRIDGE PROJ. ENG.				JOB NUMBER									22A033
	SUPERVISOR ZELDENRUST, R				CONTRACT NO.									
	DESIGNED BY BONDY, T													
	CHECKED BY BARKLEY, J													
	ENTERED BY DEBOER, J													
	PRELIM. PLAN BY													
ARCH. / SPEC.			REVISION	DATE	BY	P.E. STAMP BOX		P.E. STAMP BOX		BRIDGE DECK REINFORCEMENT PLAN				
PLOT DATE: 1/5/2023		PLOT TIME: 4:42:57 PM		PLOTTED BY: deboejak										



FILE NO.

OF

SR  
BRIDGE SHEET

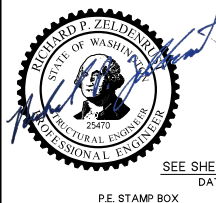
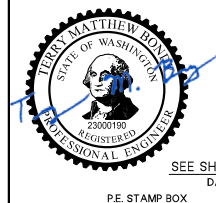
## BRIDGE DECK REINFORCEMENT SECTION

## NOTES:

1. ALL LAP SPLICES SHALL BE STAGGERED SO NOT MORE THAN 50% OF THE REBAR IS SPLICED AT THE SAME LOCATION. ALTERNATE SPLICES BETWEEN GIRDERS FOR ADJACENT REBARS.

FILE PATH / NAME c:\users\deboejak\pw_wsdot\d0474010\23 BRIDGE DECK REINF SECTION.dgn			
BRIDGE DES. ENG.	KHALEGI, B		
BRIDGE PROJ. ENG.			
SUPERVISOR	ZELDENRUST, R		
DESIGNED BY	BONDY, T		
CHECKED BY	BARKLEY, J		
ENTERED BY	DEBOER, J		
PRELIM. PLAN BY			
ARCH. / SPEC.			
REVISION		DATE	BY

REGION NO.	STATE
10	WASH
JOB NUMBER	
22A033	
CONTRACT NO.	



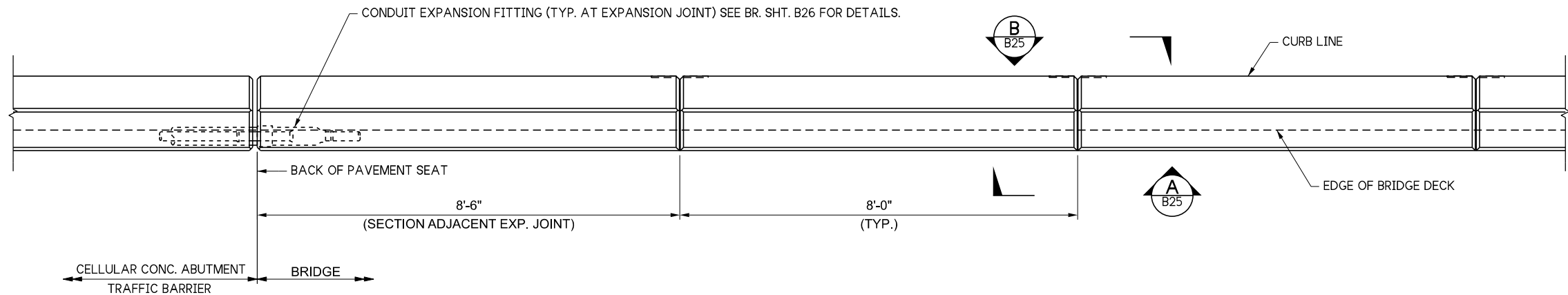
SR 542  
SQUALICUM CRK TO BELLINGHAM BAY  
FISH PASSAGE  
SQUALICUM CREEK BRIDGE 542/3  
BRIDGE DECK  
REINFORCEMENT SECTION

PLAN REF NO  
B23  
SHEET  
63  
OF  
95  
SHEETS

PLOT DATE: 1/5/2023

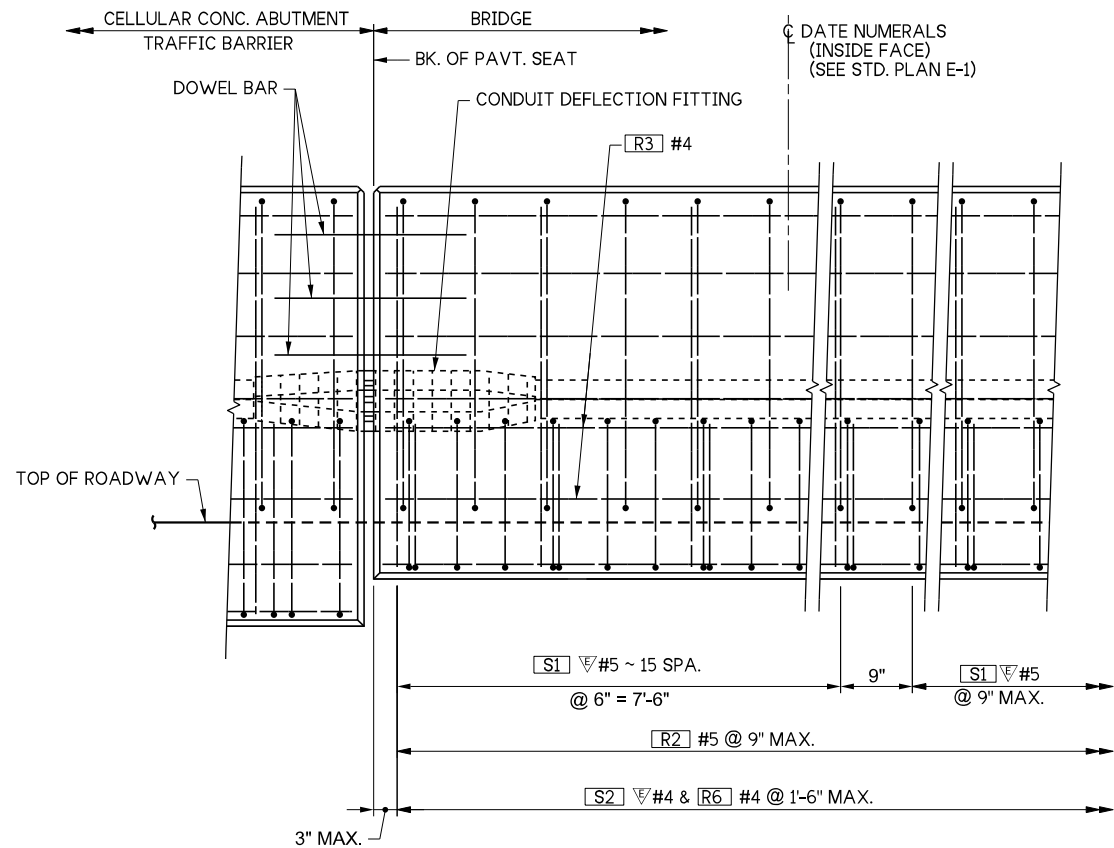
PLOT TIME: 4:43:02 PM

PLOTTED BY: deboejak



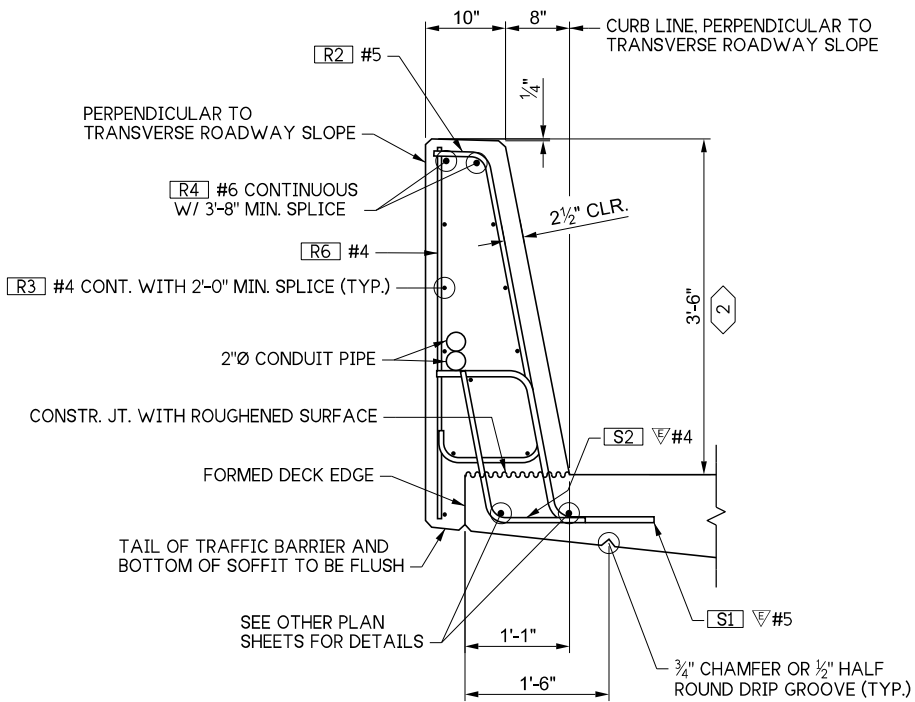
PLAN - TRAFFIC BARRIER

1



OUTSIDE ELEVATION -  
END OF TRAFFIC BARRIER

SHOWN WITH BRIDGE APPROACH SLAB



TYPICAL SECTION - TRAFFIC BARRIER

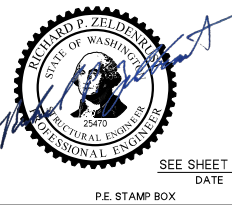
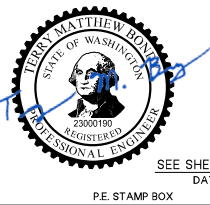
SHOWN ON BRIDGE

KEY NOTES:

- 1 BARRIER CONTINUOUS BETWEEN BRIDGE DECK EXPANSION JOINTS. CONSTRUCTION JOINTS WITH SHEAR KEYS ARE PERMISSIBLE AT DUMMY JOINT LOCATIONS. FORM JOINTS BETWEEN DUMMY JOINTS SHALL NOT BE PERMITTED.
- 2 HEIGHT MAY VARY IF REQUIRED TO PROVIDE A PROFILE PLEASING TO THE EYE.

FILE PATH / NAME	c:\users\deboejak\pw_wsdot\d0474010\24 TRAFFIC BARRIER DETAILS 1 OF 3.dgn			
BRIDGE DES. ENG.	KHALEGI, B			
BRIDGE PROJ. ENG.				
SUPERVISOR	ZELDENRUST, R			
DESIGNED BY	BONDY, T			
CHECKED BY	BARKLEY, J			
ENTERED BY	DEBOER, J			
PRELIM. PLAN BY				
ARCH. / SPEC.				
PLOT DATE: 1/5/2023	PLOT TIME: 4:43:07 PM	PLOTTED BY: deboejak		

REGION NO.	STATE
10	WASH
JOB NUMBER	22A033
CONTRACT NO.	



SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3
TRAFFIC BARRIER DETAILS 1 OF 3

PLAN REF NO B24
SHEET 64 OF 95 SHEETS

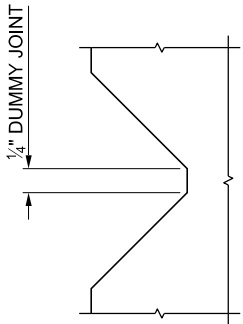
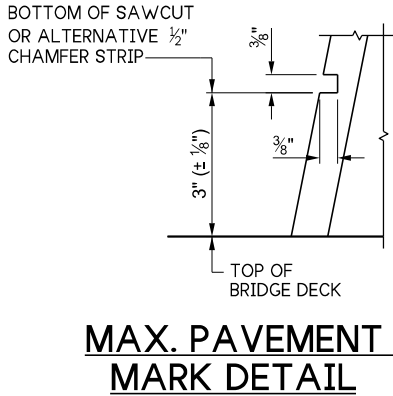
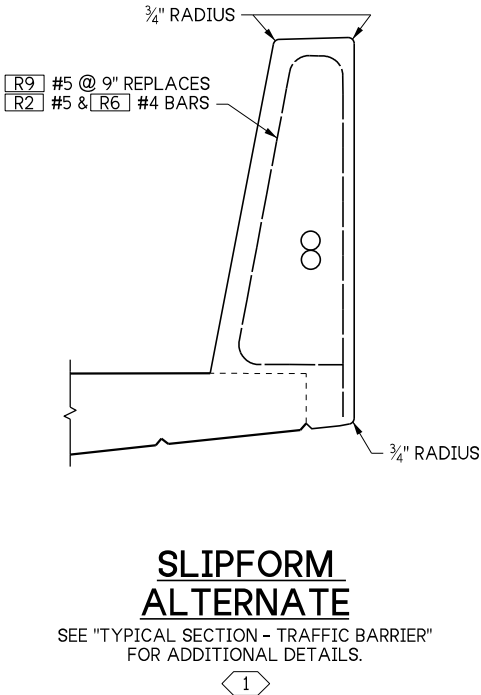
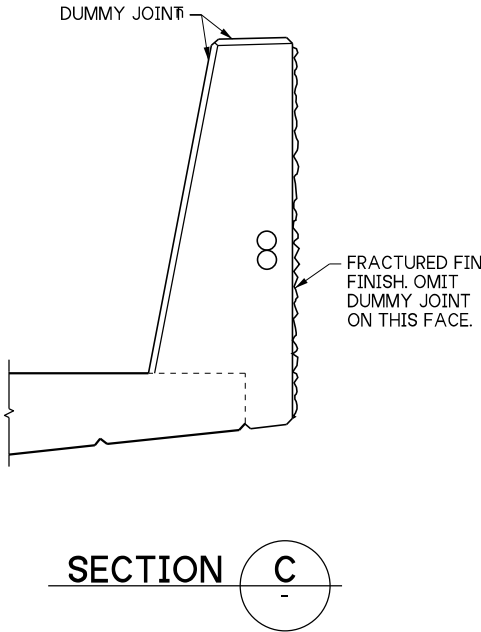
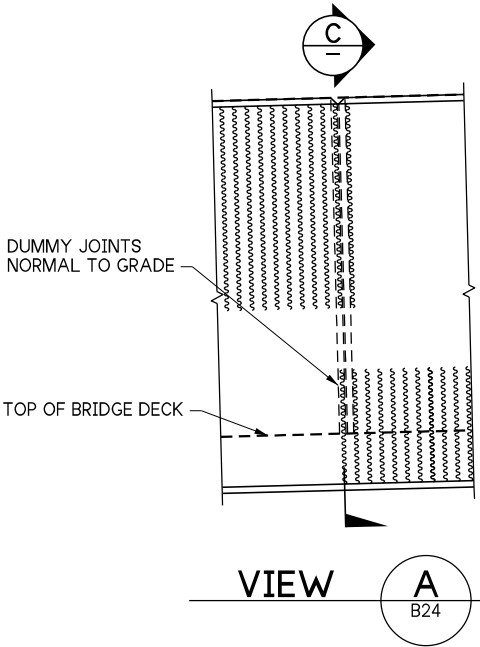
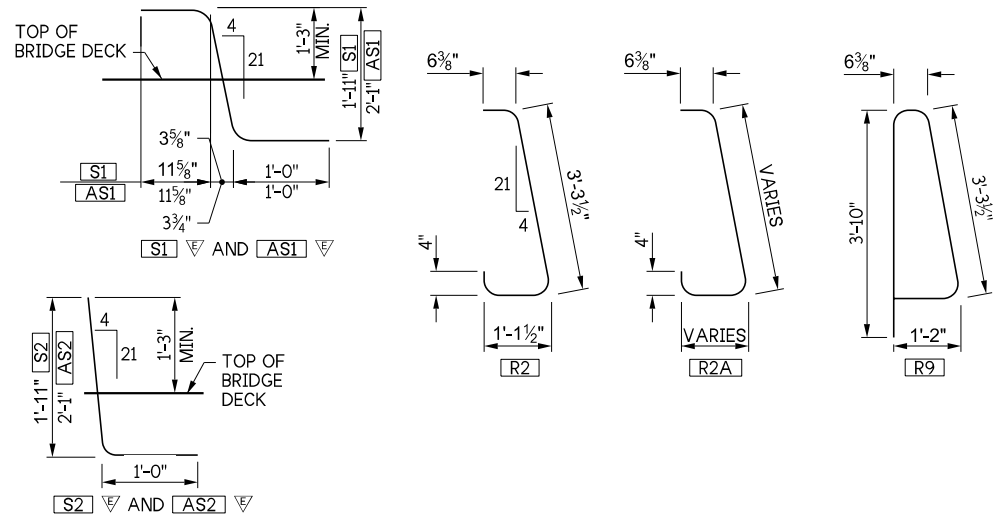
JUNCTION BOX LOCATIONS		
B STATION	OFFSET	"TS" OR "LT"
10+49.50	LEFT	"TS"
10+57.50	LEFT	"LT"
11+67.83	LEFT	"TS"
11+75.83	LEFT	"LT"
12+83.58	LEFT	"TS"
12+91.58	LEFT	"LT"
10+83.84	RIGHT	"TS"
10+91.84	RIGHT	"LT"
11+91.83	RIGHT	"TS"
11+99.83	RIGHT	"LT"
13+07.24	RIGHT	"TS"
13+15.24	RIGHT	"LT"

TS = TRAFFIC SYSTEM  
LT = LIGHTING SYSTEM

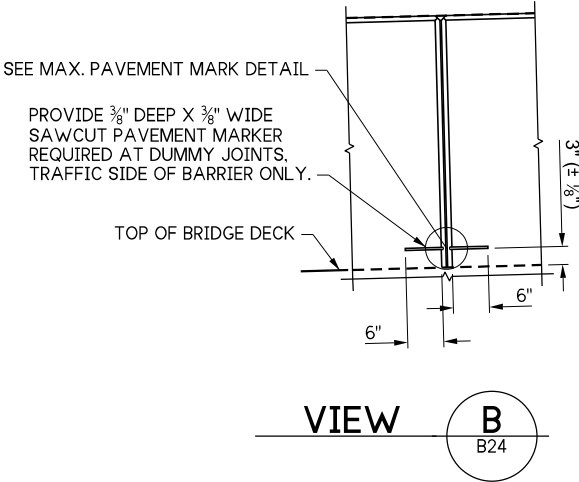
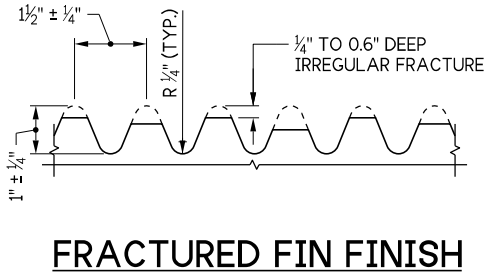
2 3

### BENDING DIAGRAM

ALL DIMENSIONS ARE OUT TO OUT






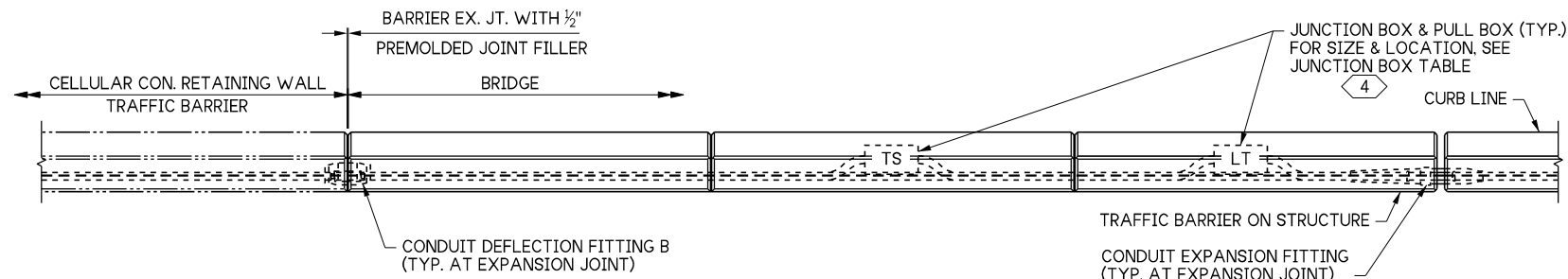
DUMMY JOINT  
DETAIL



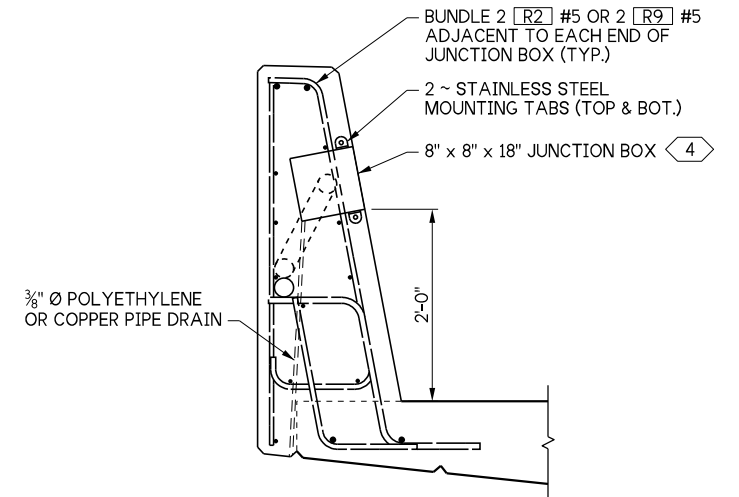
### KEY NOTES:

- 1 THE CONTRACTOR IS ADVISED THAT THE SLIPFORM CONSTRUCTION METHOD IS A PATENTED PROPRIETARY PROCESS FOR BARRIERS WITH A FRACTURED FIN FINISH.
- 2 JUNCTION BOX LOCATIONS SHOWN ARE APPROXIMATE. CENTER JUNCTION BOX INSTALLATION BETWEEN BARRIER DUMMY JOINTS.
- 3 INSTALL ALL CONDUIT RUNS TO DRAIN TO A BRIDGE END OR PROVIDE DRAIN AT ALL LOW POINTS IN CONDUIT RUN ON BRIDGE.

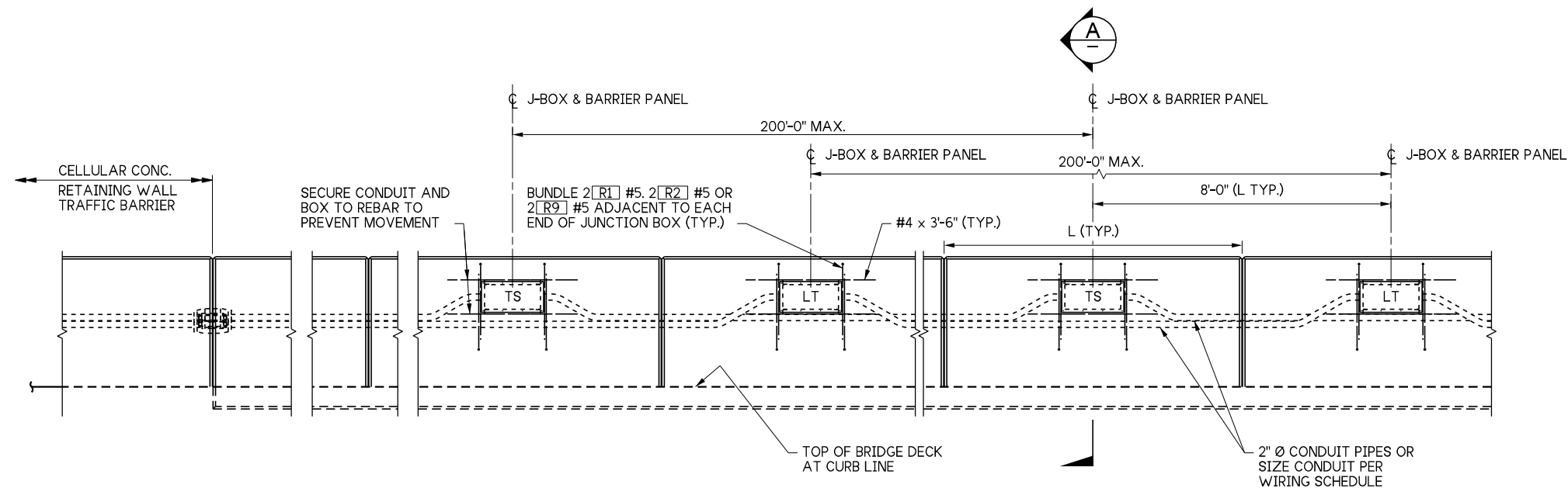
SR BRIDGE SHEET OF	FILE PATH / NAME c:\users\deboejak\pw_wsdot\0474010\25 TRAFFIC BARRIER DETAILS 2 OF 3.dgn				REGION NO.	STATE				SR 542		PLAN REF NO	
	BRIDGE DES. ENG. KHALEGI, B				10	WASH				SQUALICUM CRK TO BELLINGHAM BAY		B25	
	BRIDGE PROJ. ENG.				JOB NUMBER					SHEET 65 OF 95 SHEETS			
	SUPERVISOR ZELDENRUST, R				22A033								
	DESIGNED BY BONDY, T				CONTRACT NO.								
	CHECKED BY BARKLEY, J				REVISION								
	ENTERED BY DEBOER, J				DATE								
	PRELIM. PLAN BY				BY								
ARCH. / SPEC.													
PLOT DATE: 1/5/2023				PLOT TIME: 4:43:11 PM		PLOTTED BY: deboejak		SEE SHEET CT1 DATE		SEE SHEET CT1 DATE		TRAFFIC BARRIER DETAILS	
								P.E. STAMP BOX		P.E. STAMP BOX		2 OF 3	



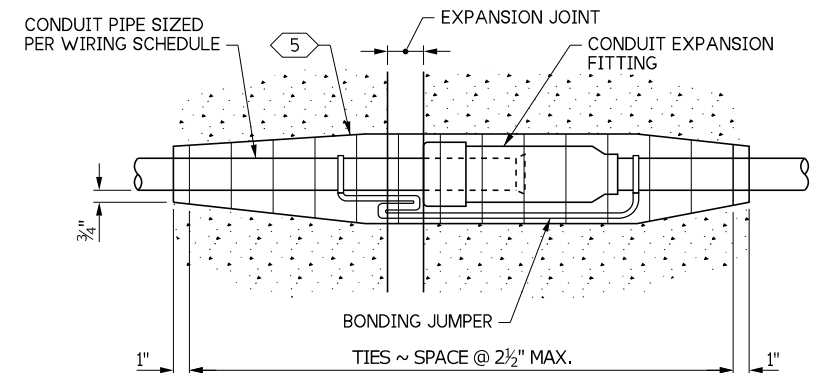
**PLAN**  
**CONDUITS & J-BOX IN TRAFFIC BARRIER**



**SECTION A**

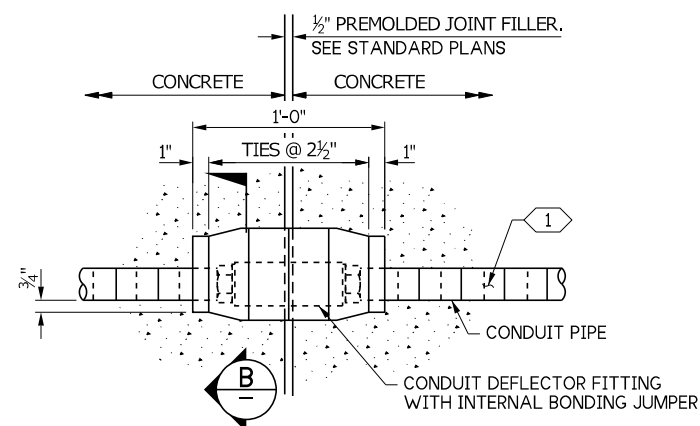


**ELEVATION**  
**CONDUITS & J-BOX IN TRAFFIC BARRIER**



**CONDUIT EXPANSION FITTING**

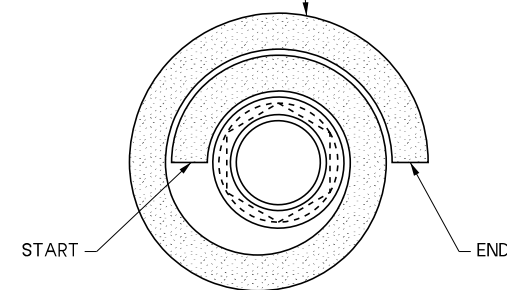
CONDUIT FITTING - (TYPE AX FOR MOVEMENT OF  $\pm 2"$ ) AT BRIDGE EXPANSION JOINTS



**CONDUIT DEFLECTION FITTING B**

CONDUIT FITTING - TYPE DX FOR DEFLECTION OF 30° AND  $\frac{3}{4}"$  MOVEMENT

$\frac{3}{4}"$  POLYSTYRENE FOAM. WRAP  $1\frac{1}{2}$  TIMES AROUND CONDUIT AND CONDUIT FITTING



**SECTION B**

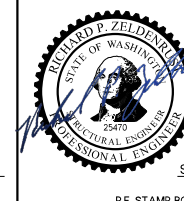
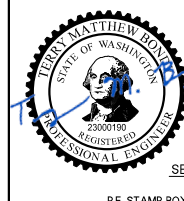
**KEY NOTES:**

- WHERE CONDUIT IN A STRUCTURE IS ROUTED ACROSS A JOINT, WRAP STEEL CONDUIT PIPE FOR 1'-0" ON EACH SIDE OF JOINT. PIPE WRAP TAPE SHALL BE 2" WIDE, 20 MIL THICK, AND INSTALLED WITH A MINIMUM OF 1" OVERLAP.
- CONDUIT PIPES PLACED THROUGH RETAINING WALL TRAFFIC BARRIER SHALL BE FITTED WITH DEFLECTION FITTINGS AT A MAXIMUM SPACING OF 120'. THE DEFLECTION FITTINGS SHALL BE PLACED AT THE TRAFFIC BARRIER OPEN JOINT THAT COINCIDES WITH THE RETAINING WALL EXPANSION JOINT.
- LABEL JUNCTION BOX COVER IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 9-29.2(4). ADJACENT JUNCTION BOXES ARE SHOWN CENTERED BETWEEN ADJACENT DUMMY JOINTS. IF THE DISTANCE BETWEEN ADJACENT DUMMY JOINTS IS 16'-0" OR GREATER, PLACE ADJACENT JUNCTION BOXES SYMMETRICALLY ON EITHER SIDE OF THE CENTER OF ONE DUMMY PANEL WHILE MAINTAINING 8'-0" MINIMUM BETWEEN CENTER LINES OF THE JUNCTION BOXES.
- NEMA 4X IN STATIONARY FORM BARRIER, OR NEMA 3R IN SLIP FORM BARRIER. MOUNT JUNCTION BOX SO COVER IS FLUSH WITH BARRIER. CAN BE RECESSED UP TO  $\frac{1}{8}"$ .
- 3'-0" LONG EXPANDED POLYSTYRENE SLEEVE AROUND CONDUIT. DUCT TAPE SEAMS AND ENDS TO SEAL AND PREVENT CONCRETE FROM BONDING WITH FITTING AND CONDUIT.

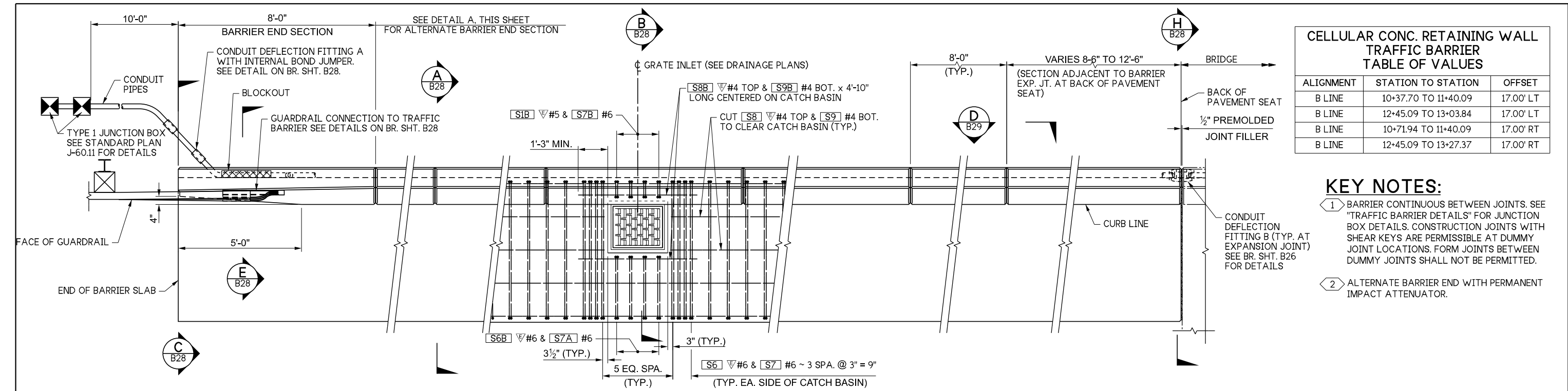
SR  
BRIDGE SHEET  
OF  
FILE NO.

FILE PATH / NAME	c:\users\deboejak\pw_wsdot\0474010\26 TRAFFIC BARRIER DETAILS 3 OF 3.dgn		
BRIDGE DES. ENG.	KHALEGI, B		
BRIDGE PROJ. ENG.			
SUPERVISOR	ZELDENRUST, R		
DESIGNED BY	BONDY, T		
CHECKED BY	BARKLEY, J		
ENTERED BY	DEBOER, J		
PRELIM. PLAN BY			
ARCH. / SPEC.			
PLOT DATE: 1/5/2023	PLOT TIME: 4:43:16 PM	PLOTTED BY: deboejak	

REGION NO.	STATE
10	WASH
JOB NUMBER	
22A033	
CONTRACT NO.	



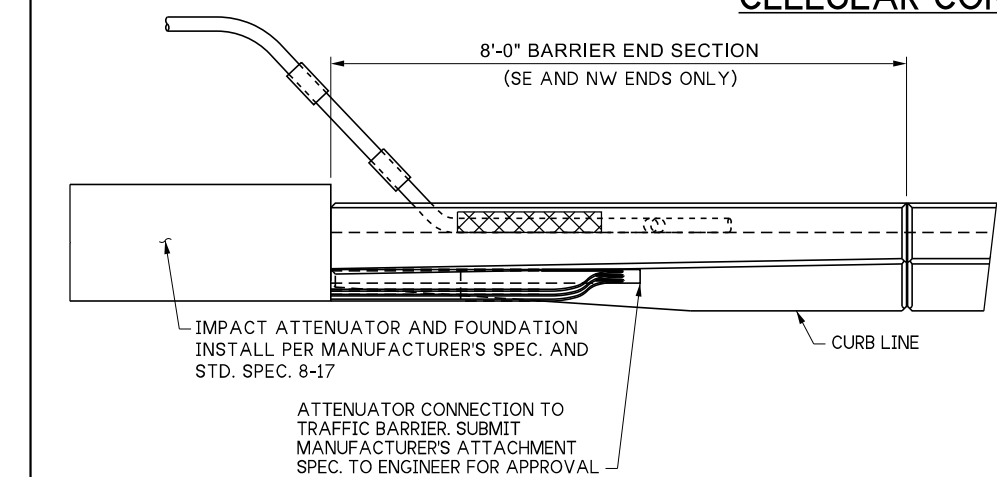
SR 542		PLAN REF NO
SQUALICUM CRK TO BELLINGHAM BAY		B26
FISH PASSAGE		
SQUALICUM CREEK BRIDGE 542/3		SHEET 66 OF 95 SHEETS
TRAFFIC BARRIER DETAILS		
3 OF 3		



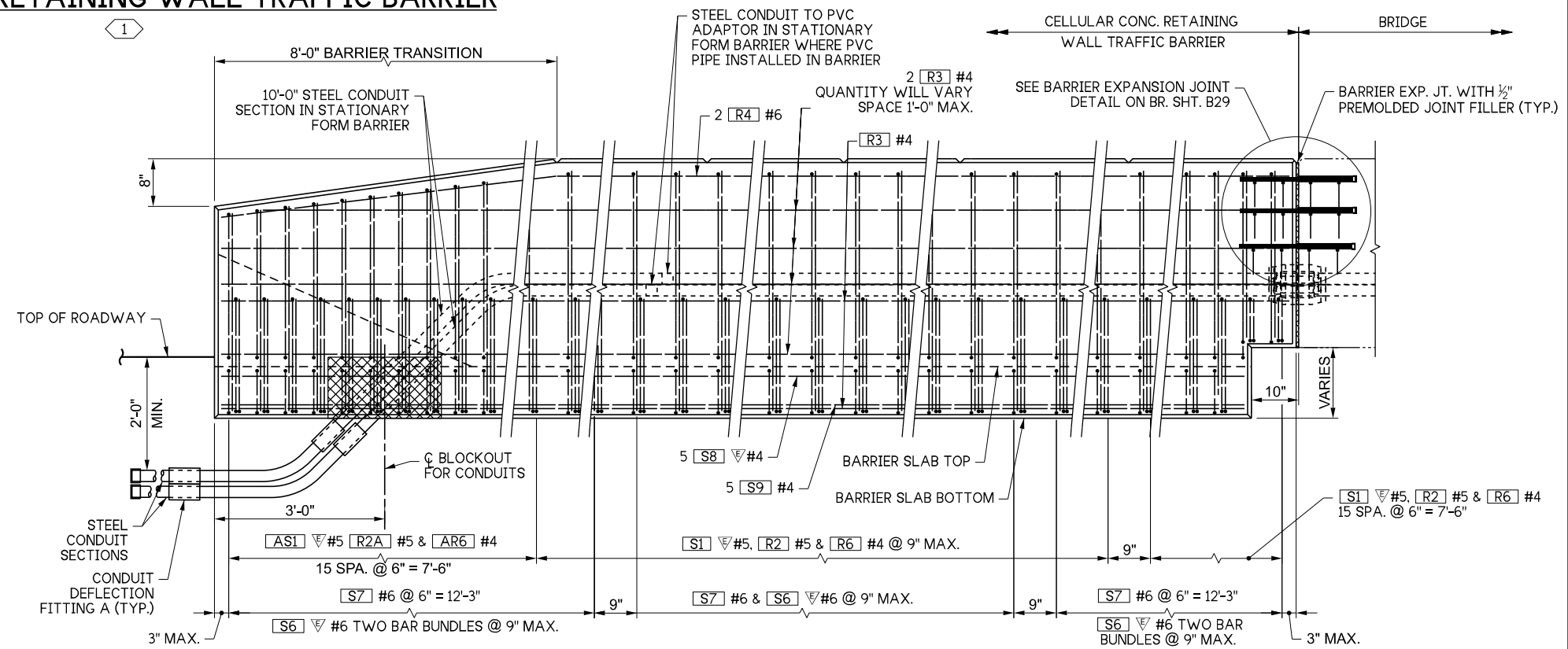
CELLULAR CONC. RETAINING WALL TRAFFIC BARRIER TABLE OF VALUES		
ALIGNMENT	STATION TO STATION	OFFSET
B LINE	10+37.70 TO 11+40.09	17.00' LT
B LINE	12+45.09 TO 13+03.84	17.00' LT
B LINE	10+71.94 TO 11+40.09	17.00' RT
B LINE	12+45.09 TO 13+27.37	17.00' RT

- KEY NOTES:**
- 1 BARRIER CONTINUOUS BETWEEN JOINTS. SEE "TRAFFIC BARRIER DETAILS" FOR JUNCTION BOX DETAILS. CONSTRUCTION JOINTS WITH SHEAR KEYS ARE PERMISSIBLE AT DUMMY JOINT LOCATIONS. FORM JOINTS BETWEEN DUMMY JOINTS SHALL NOT BE PERMITTED.
  - 2 ALTERNATE BARRIER END WITH PERMANENT IMPACT ATTENUATOR.

PLAN  
CELLULAR CONC. RETAINING WALL TRAFFIC BARRIER



DETAIL A



OUTSIDE ELEVATION  
CELLULAR CONC. RETAINING WALL TRAFFIC BARRIER

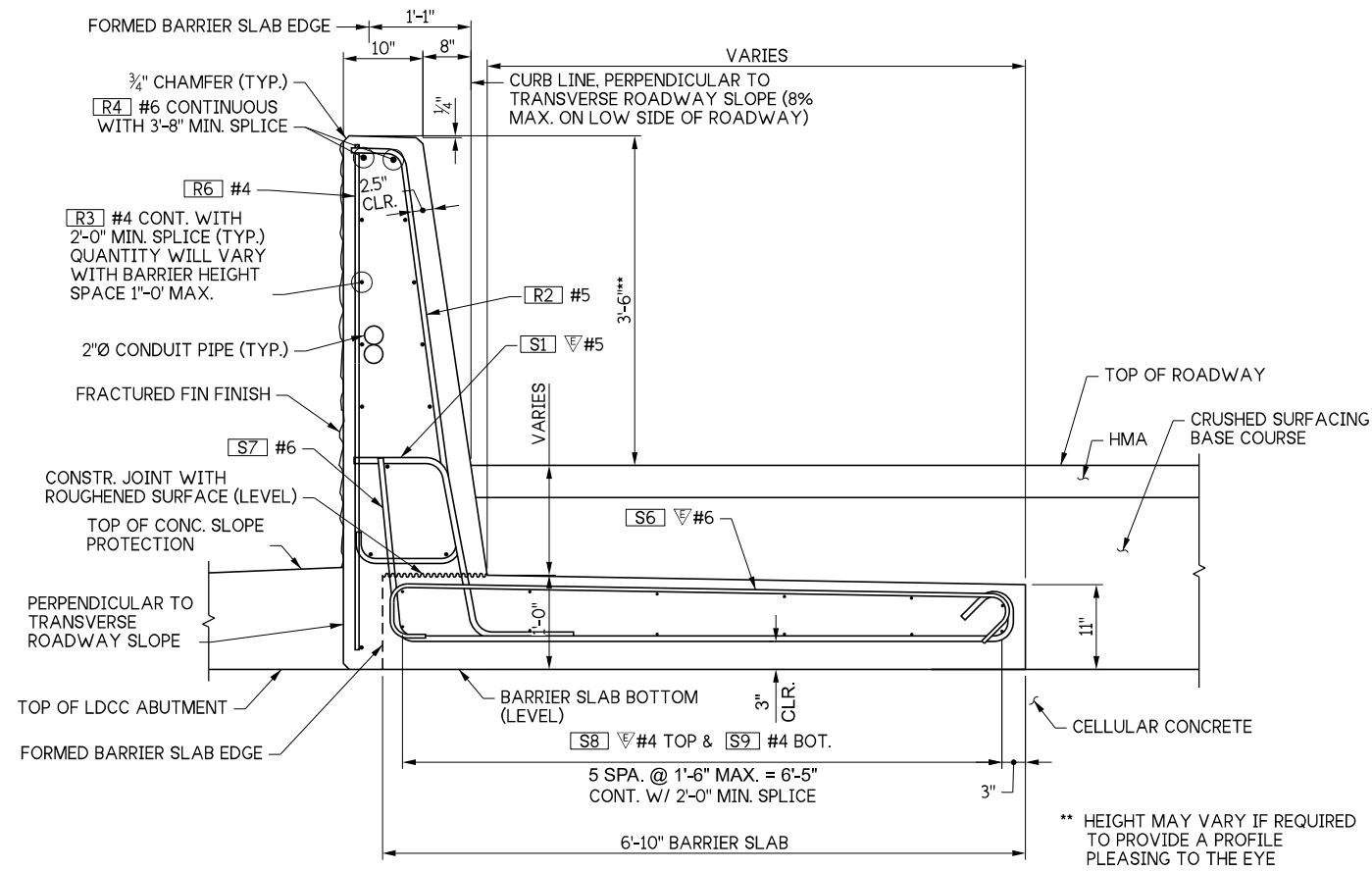
FILE PATH / NAME	c:\users\deboejak\pw_wsdot\0474010\27 CELL CONC RET WALL TRAFFIC BARRIER DETS 1 OF 3.dgn		
BRIDGE DES. ENG.	KHALEGHI, B		
BRIDGE PROJ. ENG.			
SUPERVISOR	ZELDENRUST, R		
DESIGNED BY	BONDY, T		
CHECKED BY	BARKLEY, J		
ENTERED BY	DEBOER, J		
PRELIM. PLAN BY			
ARCH. / SPEC.			
PLOT DATE: 1/5/2023	PLOT TIME: 4:43:21 PM	PLOTTED BY: deboejak	
REVISION		DATE	BY

REGION NO. 10  
STATE WASH  
JOB NUMBER 22A033  
CONTRACT NO.

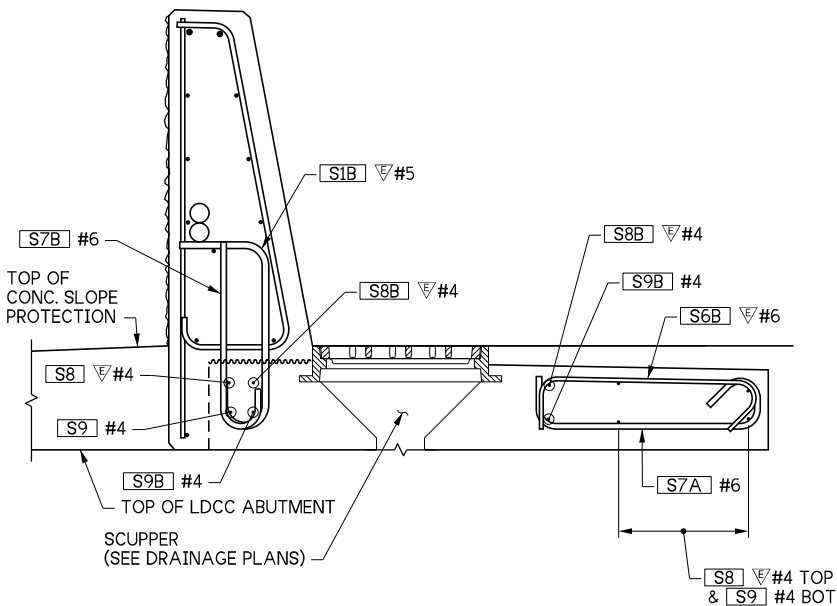
SR 542  
SQUALICUM CRK TO BELLINGHAM BAY  
FISH PASSAGE  
SQUALICUM CREEK BRIDGE 542/3  
CELLULAR CONCRETE RETAINING WALL TRAFFIC BARRIER DETAILS 1 OF 3

PLAN REF NO B27  
SHEET 67 OF 95 SHEETS

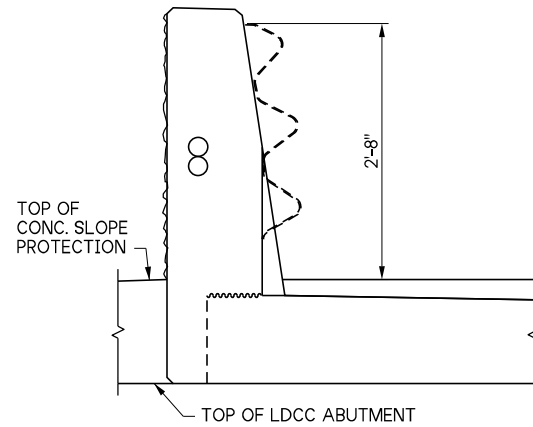




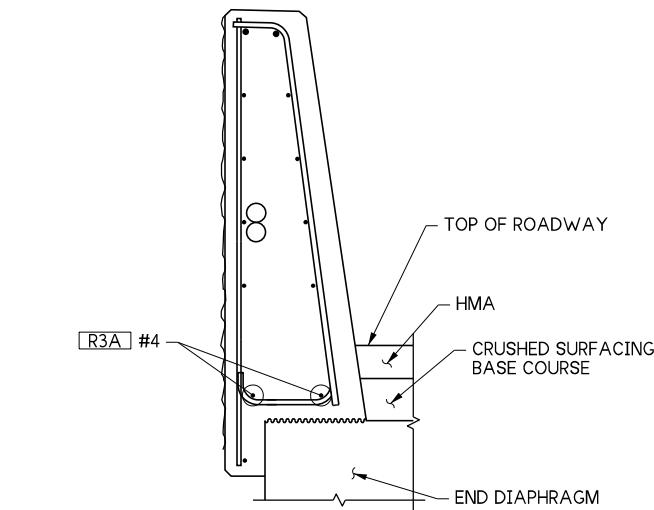
**SECTION A**  
B27



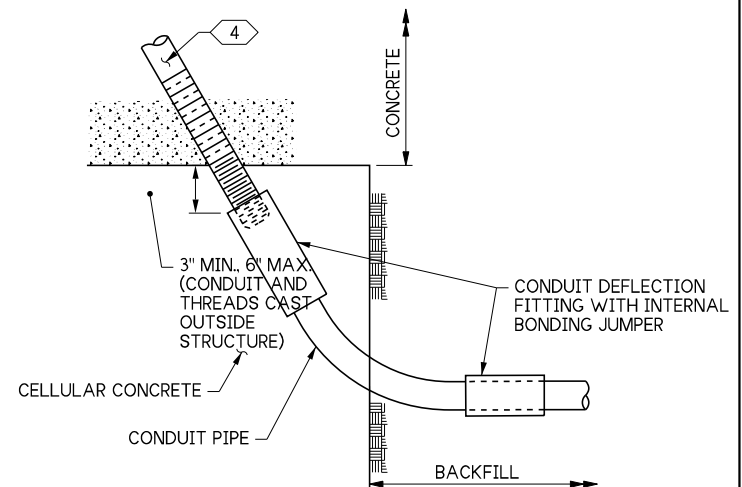
**SECTION B**  
B27



**SECTION C**  
B27



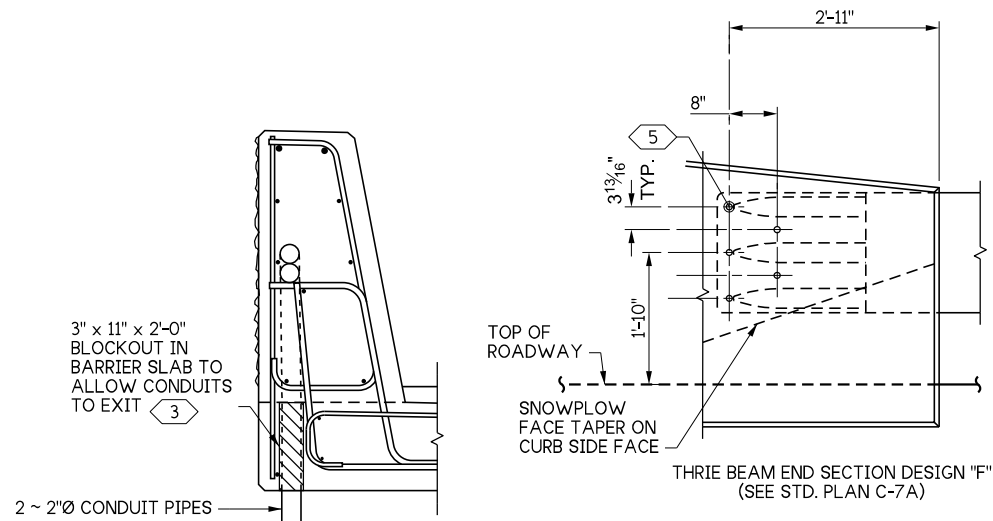
**SECTION H**  
B27



**CONDUIT DEFLECTION FITTING A**  
2

**KEY NOTES**

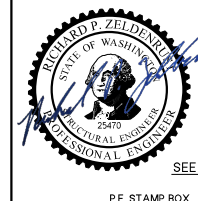
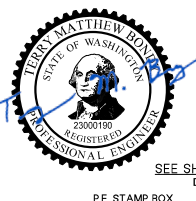
- FOR DETAILS NOT SHOWN, SEE SECTION A, THIS SHEET.
- CONDUIT FITTING - TYPE DX FOR DEFLECTION OF 30° AND 3/4" MOVEMENT. PLACE AT CONDUIT PIPE EXIT FROM STRUCTURE AND SHALL BE IN NEUTRAL STATE AFTER INSTALLATION.
- BLOCKOUT WIDTH MAY BE INCREASED TO 6" TO ALLOW CONDUITS OF A LARGER DIAMETER THAN 2" TO EXIT BARRIER OR WALL WITHOUT REBAR STEEL CONFLICT
- WHERE CONDUIT IN A STRUCTURE IS ROUTED ACROSS A JOINT, WRAP STEEL CONDUIT PIPE FOR 1'-0" ON EACH SIDE OF JOINT. PIPE WRAP TAPE SHALL BE 2" WIDE, 20 MIL THICK, AND INSTALLED WITH A MINIMUM OF 1" OVERLAP
- PROVIDE 7/8"Ø ROCKET/KOHLER F-50, LANCASTER MALLEABLE, OR DAYTON/RICHMOND F-62 FLARED THIN SLAB FERRULE INSERTS OR APPROVED EQUAL (TYP.). RESIN BONDED ANCHORS MAY BE SUBSTITUTED.



**OUTSIDE ELEVATION TRAFFIC BARRIER - GUARDRAIL CONNECTION**

FILE PATH / NAME	c:\users\deboejak\pw_wsdot\0474010\28 CELL CONC RET WALL TRAFFIC BARRIER DETS 2 OF 3.dgn		
BRIDGE DES. ENG.	KHALEGHI, B		
BRIDGE PROJ. ENG.			
SUPERVISOR	ZELDENRUST, R		
DESIGNED BY	BONDY, T		
CHECKED BY	BARKLEY, J		
ENTERED BY	DEBOER, J		
PRELIM. PLAN BY			
ARCH. / SPEC.			
PLOT DATE: 1/5/2023	PLOT TIME: 4:43:30 PM	PLOTTED BY: deboejak	
REVISION		DATE	BY

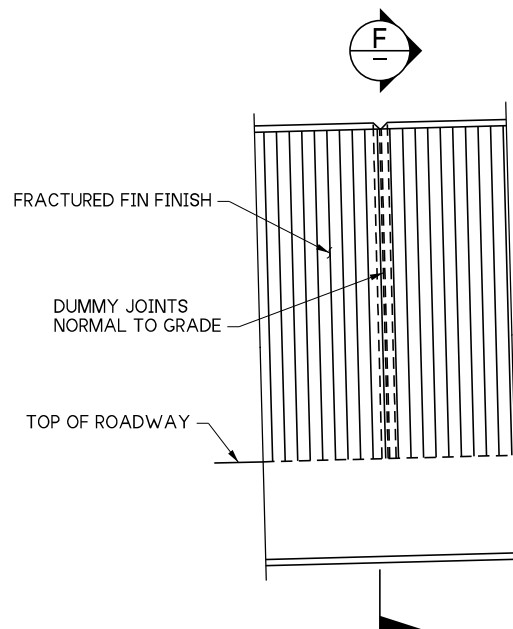
REGION NO.	STATE
10	WASH
JOB NUMBER	
22A033	
CONTRACT NO.	



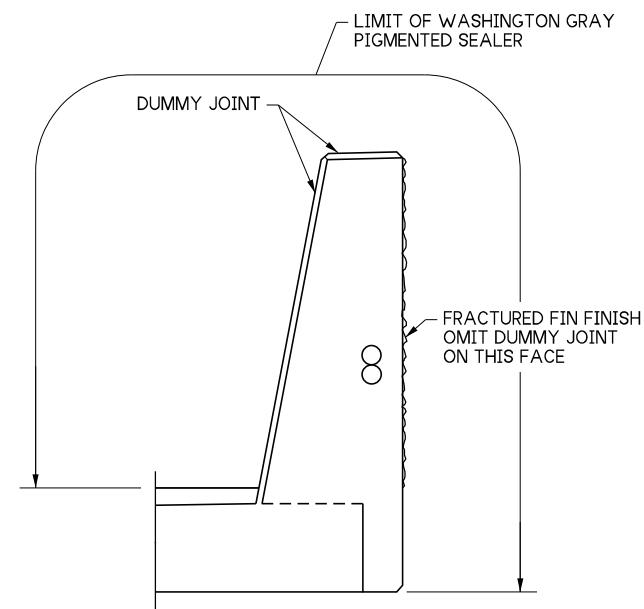
SR 542	
SQUALICUM CRK TO BELLINGHAM BAY	
FISH PASSAGE	
SQUALICUM CREEK BRIDGE 542/3	
CELLULAR CONCRETE RETAINING WALL	
TRAFFIC BARRIER DETAILS 2 OF 3	

PLAN REF NO	B28
SHEET	68
OF	95
SHEETS	

ALL DIMENSIONS ARE OUT TO OUT  
 ≠ = DIMENSIONS TO POINTS OF INTERSECTION  
 ▽ = EPOXY COATED

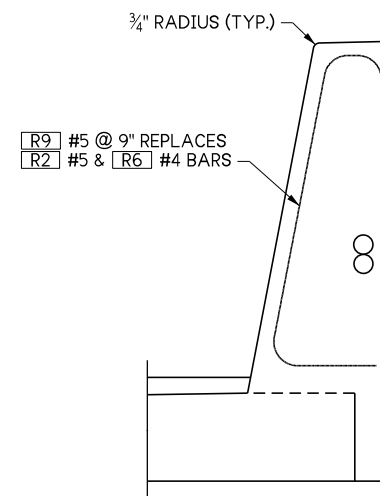


D  
B27



F

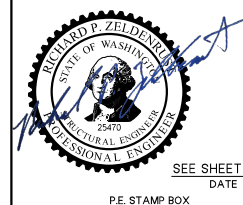
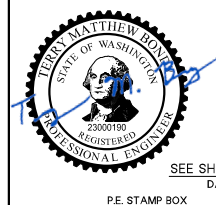
SEE BR. SHT. B25 FOR DUMMY JOINT DETAIL AND FRACTURED FIN FINISH.



FOR DETAILS NOT SHOWN,  
SEE SECTION A ON SHEET B30

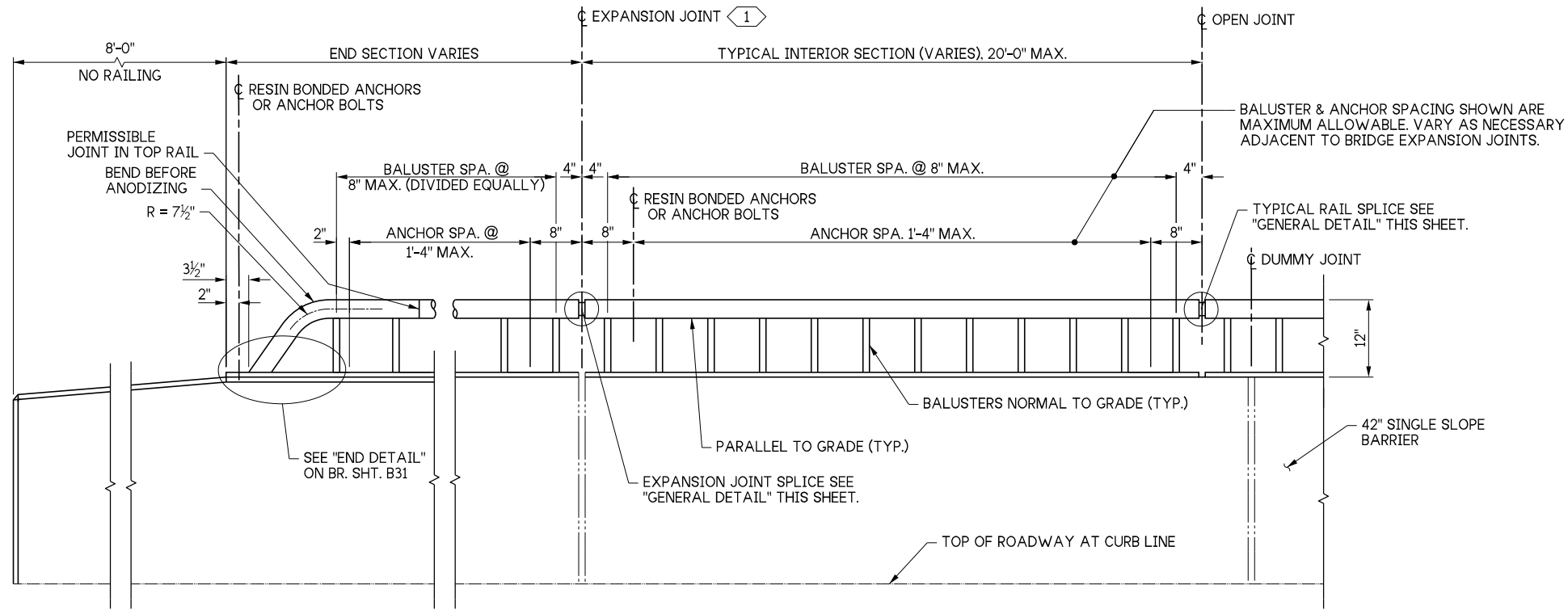
## PVC PIPE FOR BARRIER SLAB SIMILAR

REGION NO.	STATE
10	WASH
JOB NUMBER	
22A033	
CONTRACT NO.	

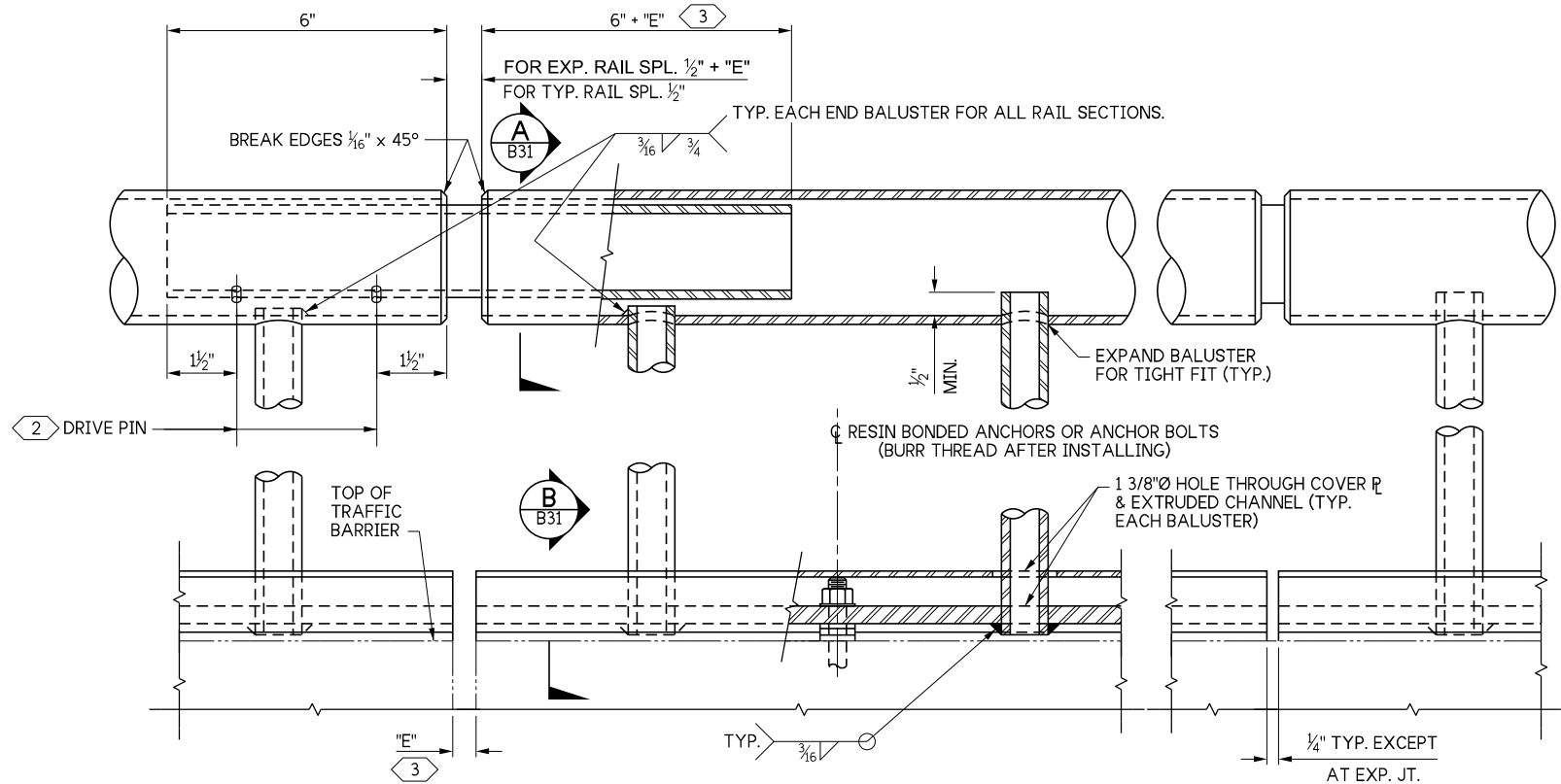


CELLULAR CONCRETE RETAINING WALL  
TRAFFIC BARRIER DETAILS 3 OF 3

SHEET  
69  
OF  
95  
SHEETS



**ELEVATION**  
BALUSTER AND GUARDRAIL SECTION  
ATTACHMENT DETAILS NOT SHOWN



**GENERAL DETAIL**

## RAILING NOTES:

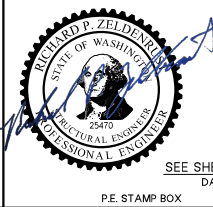
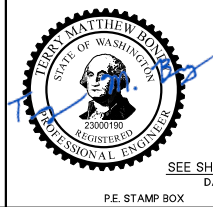
- PIPE RAILING, PIPE RAILING SPLICES, COVER PLATES AND BOTTOM EXTRUDED CHANNELS SHALL BE BENT TO THE HORIZONTAL CURVE WHERE THE RADIUS OF CURVATURE IS LESS THAN 200'. THESE ITEMS MAY BE HEATED TO NOT MORE THAN 400°F FOR A PERIOD NOT TO EXCEED 30 MINUTES TO FACILITATE FORMING OR BENDING TO HORIZONTAL CURVATURE.
- SHOP DRAWINGS OF RAILING SHALL BE SUBMITTED AS A TYPE 2 WORKING DRAWING SHOWING COMPLETE DIMENSIONS AND DETAILS OF FABRICATION AND INCLUDING AN ERECTION DIAGRAM. MATERIAL SPECIFICATIONS SHALL BE PROVIDED IN THE SHOP DRAWINGS FOR ALL COMPONENTS.
- CUTTING SHALL BE DONE BY SAWING OR MILLING AND ALL CUTS SHALL BE TRUE AND SMOOTH. FLAME CUTTING WILL NOT BE PERMITTED.
- WELDING OF ALUMINUM SHALL CONFORM TO STD. SPEC. SECTION 9-28.14(3).
- ALL ALUMINUM PARTS SHALL BE GIVEN A CLEAR ANODIC COATING OF AT LEAST 0.0006" THICK AND SEALED TO MEET THE REQUIREMENTS OF ASTM B 580 WITH A UNIFORM FINISH.
- PIPE RAILING, PIPE BALUSTERS AND PIPE RAILING SPLICES SHALL BE ADEQUATELY WRAPPED TO INSURE SURFACE PROTECTION DURING HANDLING AND TRANSPORTATION TO THE JOB SITE.

## KEY NOTES:

- PROVIDE EXPANSION RAIL SPLICE AT TRAFFIC BARRIER EXPANSION JOINTS. RAIL SPLICE JOINTS ARE NOT REQUIRED AT TRAFFIC BARRIER DUMMY JOINTS.
- LOCATE ON OPPOSITE SIDE OF TRAFFIC. DRIVE PINS SHALL BE DRIVEN FLUSH WITH THE OUTSIDE FACE OF THE RAILING.
- "E" DIMENSION SHALL BE EQUAL TO OPENING OF TRAFFIC BARRIER EXPANSION JOINTS.

FILE PATH / NAME	c:\users\deboejak\pw_wsdot\0474010\30 BRIDGE RAILING TYPE BP DETAILS 1 OF 2.dgn
BRIDGE DES. ENG.	KHALEGI, B
BRIDGE PROJ. ENG.	
SUPERVISOR	ZELDENRUST, R
DESIGNED BY	BONDY, T
CHECKED BY	BARKLEY, J
ENTERED BY	DEBOER, J
PRELIM. PLAN BY	
ARCH. / SPEC.	
PLOT DATE: 1/5/2023	PLOT TIME: 4:43:38 PM
PLOTTED BY: deboejak	

REGION NO.	STATE
10	WASH
JOB NUMBER	22A033
CONTRACT NO.	



SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3	PLAN REF NO B30
BRIDGE RAILING TYPE BP-12 DETAILS 1 OF 2	SHEET 70 OF 95 SHEETS



## MATERIAL SPECIFICATION TABLE

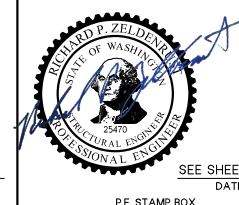
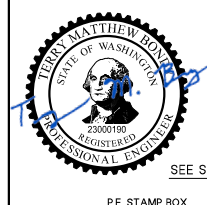
MAT'L	PART	MATERIAL SPECIFICATION
ALUMINUM	RAILS & BALUSTERS	ASTM B221-6005-T5, 6005A-T5 OR ASTM B241-6061-T6
	EXTRUDED CHANNELS, COVER PLATES & BAR	ASTM B221-6005-T5 OR 6005A-T5
STEEL	STRIP	ASTM A 36
	ANCHOR BOLTS, NUTS & WASHERS	STANDARD SPECIFICATION SECTION 9-06.5(4) GR. 36 (GALVANIZE IN ACCORDANCE WITH AASHTO SPECIFICATION M 232)
	DRIVE PINS	ASTM A276 OR A240 TYPE 302 STAINLESS STEEL

### KEY NOTES:

- 1 LOCATE ON OPPOSITE SIDE OF TRAFFIC. DRIVE PINS SHALL BE DRIVEN FLUSH WITH THE OUTSIDE FACE OF THE RAILING.
- 2 DRILL  $\frac{3}{8}$ "Ø HOLE FOR  $\frac{3}{8}$ "Ø DRIVE PIN AT LOCATION SHOWN.
- 3 THIS COVER PLATE SECTION SHALL BE SNAPPED INTO POSITION AFTER 2"Ø STD. PIPE HAS BEEN WELDED TO BOTTOM EXTRUDED CHANNEL.
- 4 ANCHOR BOLTS SHALL BE POSITIONED IN A JIG DURING WELDING.
- 5 ALTERNATE TO  $\frac{3}{8}$ "Ø RESIN BONDED ANCHORS

BRIDGE SHEET	FILE PATH / NAME c:\users\deboejak\pw_wsdot\d0474010\31 BRIDGE RAILING TYPE BP DETAILS 2 OF 2.dgn				
	BRIDGE DES. ENG.	KHALEGHI, B			
	BRIDGE PROJ. ENG.				
	SUPERVISOR	ZELDENRUST, R			
	DESIGNED BY	BONDY, T			
	CHECKED BY	BARKLEY, J			
	ENTERED BY	DEBOER, J			
	PRELIM. PLAN BY				
SR	ARCH. / SPEC.		REVISION	DATE	BY

	REGION NO.	STATE
	10	WASH
	JOB NUMBER	
	22A033	
	CONTRACT NO.	

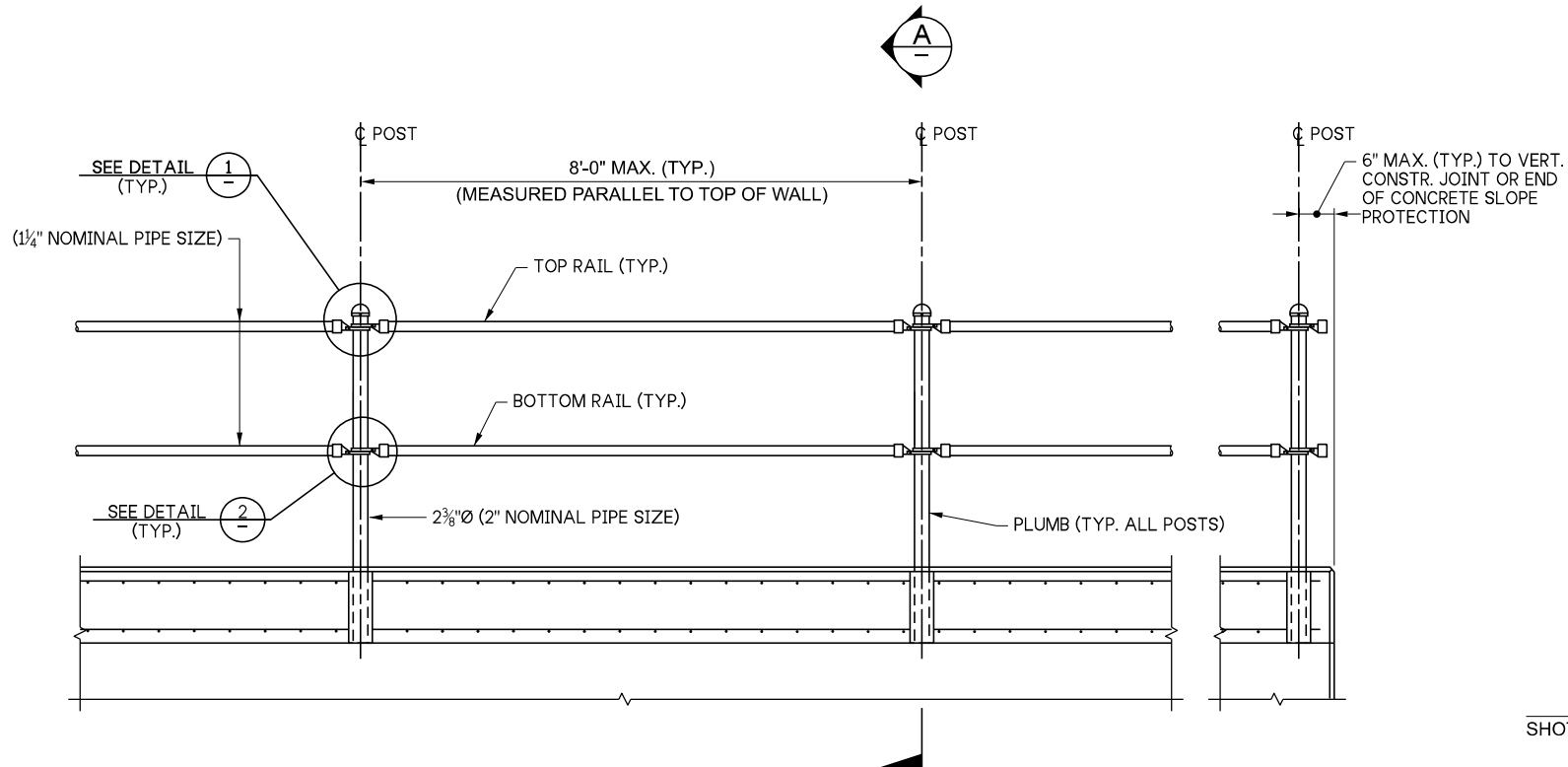


<div style="text-align: center;"> <p>SR 542</p> <p>SQUALICUM CRK TO BELLINGHAM BAY</p> <p>FISH PASSAGE</p> <p>SQUALICUM CREEK BRIDGE 542/3</p> </div>	PLAN REF NO
	B31
	SHEET 71 OF 95 SHEETS
<div style="text-align: center;"> <p>BRIDGE RAILING TYPE BP-12</p> <p>DETAILS 2 OF 2</p> </div>	

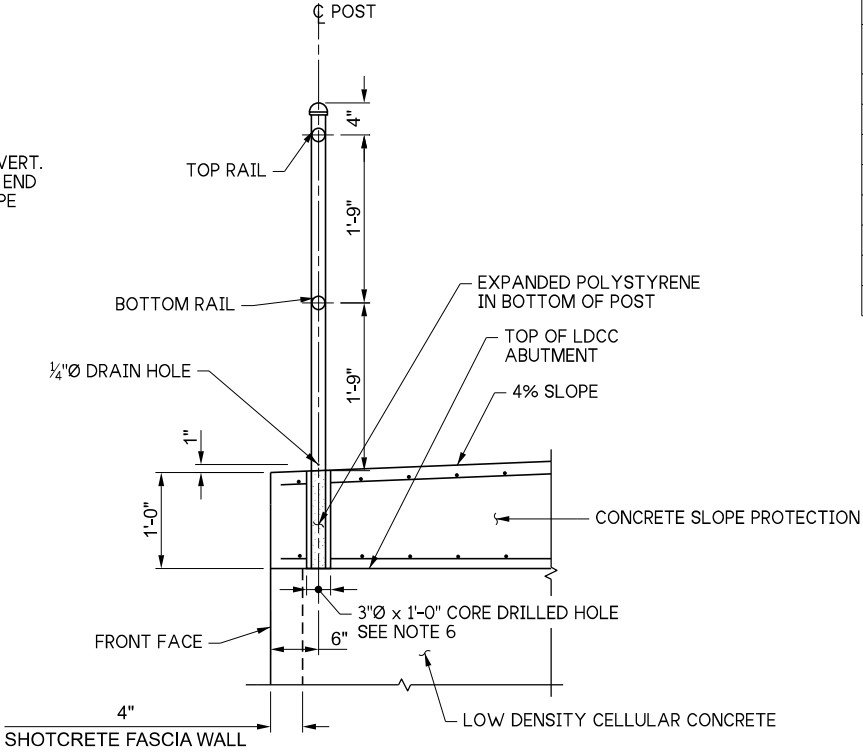


BRIDGE RAILING TYPE CHAIN LINK PIPE RAIL  
TABLE OF VALUES

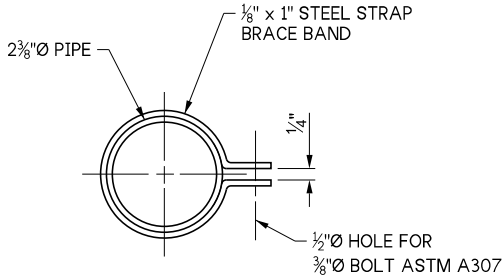
ALIGNMENT	STATION TO STATION	OFFSET TO OFFSET
B LINE	10+48.33 TO 11+40.09	22.00' LT
B LINE	11+40.09	18.50' LT TO 22.00' LT
B LINE	10+78.19 TO 11+40.09	22.00' RT
B LINE	11+40.09	18.50' RT TO 22.00' RT
B LINE	12+45.09	18.50' LT TO 22.00' LT
B LINE	12+45.09 TO 12+99.36	22.00' LT
B LINE	12+45.09	18.50' RT TO 22.00' RT
B LINE	12+45.09 TO 13+21.93	22.00' RT



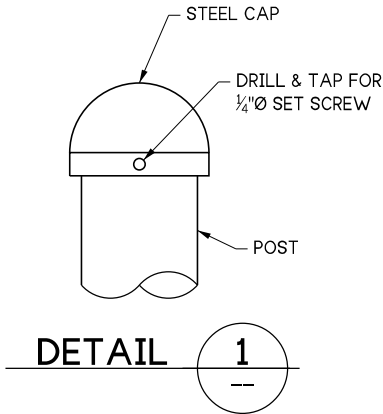
**TYPICAL ELEVATION**  
REINFORCEMENT NOT SHOWN FOR CLARITY



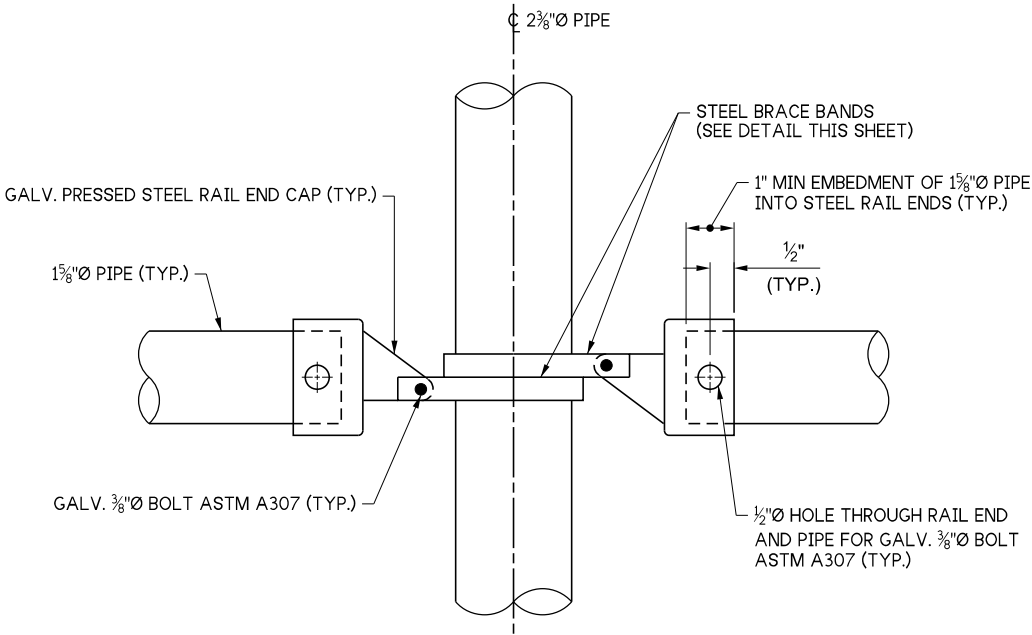
**SECTION A**



**BRACE BAND**



**DETAIL 1**



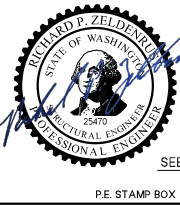
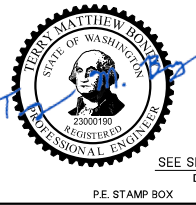
**DETAIL 2**

**NOTES:**

- THIS CHAIN LINK PIPE RAIL FENCE MEETS THE REQUIREMENTS FOR FALL PROTECTION IN ACCORDANCE WITH WAC 296-880 AND SHALL NOT BE USED FOR PEDESTRIAN APPLICATIONS.
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9TH EDITION 2020, AND LOADING IN ACCORDANCE WITH WAC 296-880.
- POST AND RAIL ELEMENTS SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 9-16.1(1)A AND SHALL BE SCHEDULE 40 (MINIMUM YIELD STRENGTH OF 50 KSI). FITTINGS AND HARDWARE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 9-16.1(1)D. FITTINGS SHALL BE PRESSED STEEL.
- ALL STEEL PARTS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111, M232, OR ASTM F2329 AFTER FABRICATION, UNLESS NOTED OTHERWISE.
- ALL TUBES, PIPES, AND HARDWARE SHALL BE SHOP PAINTED OR POWDER COATED AFTER GALVANIZING IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 6-07.3(11). THE COLOR OF THE FINISH COAT, WHEN DRY, SHALL MATCH THE COLOR SAE AMS STANDARD COLOR NO. 20045. AFTER INSTALLATION, ANY SURFACES WITH PAINT OR POWDER COATING DAMAGE SHALL BE REPAIRED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 6-07.3(10)P OR SECTION 6-07.3(11)B6, RESPECTIVELY.
- ROUGHEN SIDES AND FILL CORED HOLE WITH EPOXY RESIN.

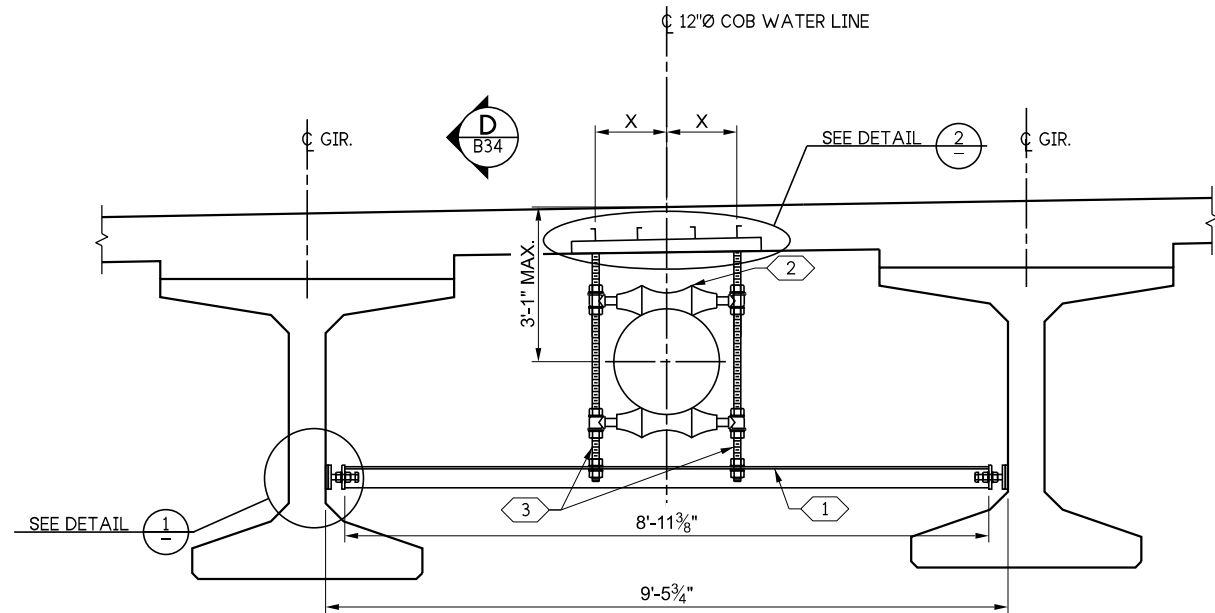
FILE PATH / NAME	c:\users\deboejak\pw_wsdot\0474010\32 BRIDGE RAILING TYPE CHAIN LINK PIPE RAIL DETAILS.dgn			
BRIDGE DES. ENG.	KHALEGI, B			
BRIDGE PROJ. ENG.				
SUPERVISOR	ZELDENRUST, R			
DESIGNED BY	BONDY, T			
CHECKED BY	BARKLEY, J			
ENTERED BY	DEBOER, J			
PRELIM. PLAN BY				
ARCH. / SPEC.				
PLOT DATE: 1/5/2023	PLOT TIME: 4:43:47 PM	PLOTTED BY: deboejak		

REGION NO.	STATE
10	WASH
JOB NUMBER	22A033
CONTRACT NO.	

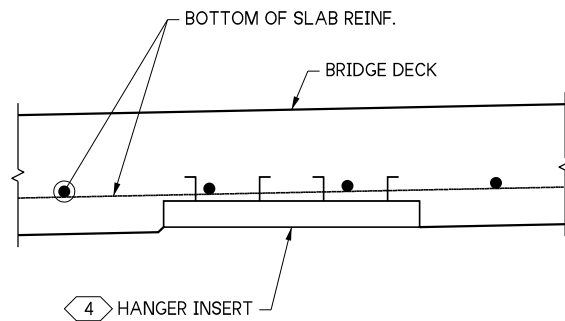


SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3	PLAN REF NO B32
BRIDGE RAILING TYPE CHAIN LINK PIPE RAIL DETAILS	SHEET 72 OF 95 SHEETS

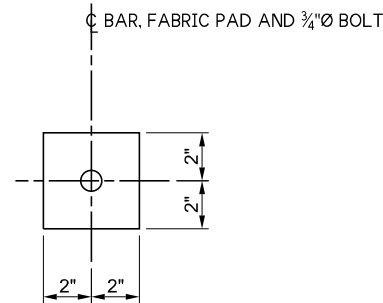




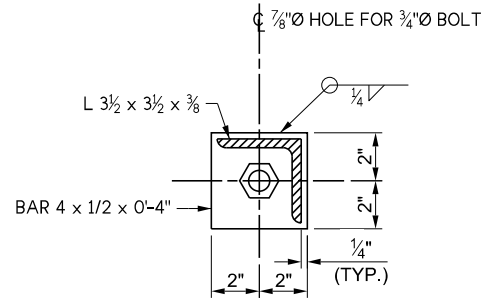
**HANGER UTILITY SUPPORT**  
"X" DETERMINED FROM MANUFACTURER



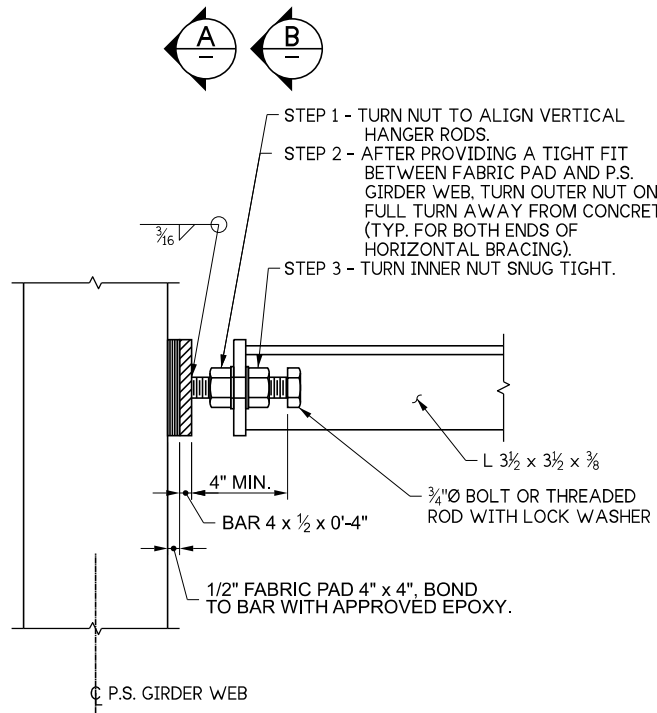
**DETAIL 2**



**SECTION A**



**SECTION B**



**DETAIL 1**

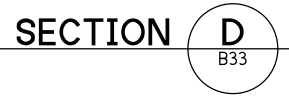
**NOTES:**

- ALL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION PER AASHTO M 111 OR AASHTO M 232 EXCEPT PIPE ROLLERS.
- PAINT ROLLERS WITH THREE COATS OF GALVANIZING REPAIR PAINT. SEE STD. SPEC. SECTION 9-08.1(2)B.

**KEY NOTES:**

- L 3 1/2 x 3 1/2 x 3/8 WITH 2 - X" Ø HOLES FOR X" Ø HANGER RODS AT EVERY OTHER VERTICAL SUPPORT, NEAR PIERS, AND AT EXPANSION JOINTS.
- ANVIL PIPE ROLL FIG. 171, B-LINE B3114, CARPENTER AND PATTERSON FIG. 142 OR APPROVED EQUAL.
- "X" Ø GALV. HANGER RODS WITH 6 HEX HEAD NUTS, STD. WASHERS, AND LOCK WASHERS. "X" DETERMINED FROM MANUFACTURER.
- COOPER B22-I, POWERSTRUT PS 349, OR UNISTRUT P3256, WITH SPRING NUT (TYP.). CHASE THREADS ON HANGER ROD FOR THREAD COMPATIBILITY WITH SPRING NUT. INSERT TO BE INSTALLED LEVEL LONGITUDINALLY AND TRANSVERSELY. PLACE INSERT TO PROVIDE FOR TRANSVERSE ADJUSTMENT OF HANGER RODS. HANGER RODS SHALL NOT BE WITHIN 2" OF THE END OF THE INSERT. TWO INSERTS MAY BE USED TO ACCOMMODATE SUPERELEVATION.

SR BRIDGE SHEET OF FILE NO.	FILE PATH / NAME c:\users\deboejak\pw_wsdot\d0474010\33 UTILITY HANGER DETAILS 1 OF 2.dgn				REGION NO.	STATE				SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3		PLAN REF NO
	BRIDGE DES. ENG.	KHALEGI, B			10	WASH						B33
	BRIDGE PROJ. ENG.											
	SUPERVISOR	ZELDENRUST, R										
	DESIGNED BY	BONDY, T										
	CHECKED BY	BARKLEY, J				22A033						SHEET 73 OF 95 SHEETS
	ENTERED BY	DEBOER, J										
	PRELIM. PLAN BY											
	ARCH. / SPEC.											
	PLOT DATE: 1/5/2023	PLOT TIME: 4:43:51 PM	PLOTTED BY: deboejak							UTILITY HANGER DETAILS 1 OF 2		



MARK NO.	LOCATION	SIZE	QTY.	BEND TYPE	TIE OR STIRR. (1)	SUBSTR. (2)	COATING TYPE (3)	VARIES	NO. EACH	DIMENSIONS (OUT TO OUT)														LENGTH		WEIGHT	
										U		W		X		Y		Z		θ	θ						
										Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Deg.	Deg.	Ft.	In.	Lbs			
	PIER 1																										
101	BOTTOM TRANSVERSE	6	75	50	T	S				10	2.0										10	2.0					1145
102	BOTTOM LONGITUDINAL	6	21	50		S				37	0.0										37	0.0					1167
103	TOP LONGITUDINAL	6	11	50		S				37	0.0										37	0.0					611
104	TOP TRANSVERSE	6	38	50	T	S				10	2.0										10	2.0					580
105	NEAR FACE VERTICAL	5	75	54		S		V	1	9	9.0										10	5.0					739
										7	9.0										8	5.0					
106	FAR FACE VERTICAL	5	75	54		S		V	1	9	9.0										10	5.0					739
										7	9.0										8	5.0					
107	HORIZONTAL	5	18	50		S				45	8.0										45	8.0					857
108	TIE	4	94	58	T	S				1	7.0										2	3.0					141
109	STOP VERTICAL	5	10	74		S		V	1	1	6.0	7	10.0	7	10.0						16	11.0					153
										1	6.0	5	7.0	5	7.0						12	5.0					
110	TOP TIES	5	85	74		S				1	5.0	1	0.0	1	0.0						3	2.0					283
111	STOP HORIZONTAL	5	8	50		S				4	1.0										4	1.0					34
112	HORIZONTAL SHRINKAGE	6	8	50		S				10	0.0										10	0.0					120
113	HORIZONTAL SHRINKAGE	6	8	50		S				36	10.0										36	10.0					443
114	VERTICAL SHRINKAGE	6	132	56		S				3	4.0										5	0.0					995
	PIER 2																										
201	BOTTOM TRANSVERSE	6	75	50	T	S				10	2.0										10	2.0					1145
202	BOTTOM LONGITUDINAL	6	21	50		S				37	0.0										37	0.0					1167
203	TOP LONGITUDINAL	6	11	50		S				37	0.0										37	0.0					611
204	TOP TRANSVERSE	6	38	50	T	S				10	2.0										10	2.0					580
205	NEAR FACE VERTICAL	5	75	54		S		V	1	9	0.0										9	8.0					733
										8	4.0										9	0.0					
206	FAR FACE VERTICAL	5	75	54		S		V	1	9	0.0										9	8.0					733
										8	4.0										9	0.0					
207	HORIZONTAL	5	20	50		S				45	8.0										45	8.0					953
208	TIE	4	94	58	T	S				1	7.0										2	3.0					141
209	STOP VERTICAL	5	10	74		S		V	1	1	5.0	6	6.0	6	6.0						14	2.0					154
										1	5.0	7	1.0	7	1.0						15	4.0					
210	TOP TIES	5	85	74		S				1	5.0	1	0.0	1	0.0						3	2.0					283
211	STOP HORIZONTAL	5	8	50		S				4	1.0										4	1.0					34
212	HORIZONTAL SHRINKAGE	6	8	50		S				36	10.0										36	10.0					443
213	HORIZONTAL SHRINKAGE	6	8	50		S				10	0.0										10	0.0					120
214	VERTICAL SHRINKAGE	6	132	56		S				3	4.0										5	0.0					995
	BRIDGE DECK																										
310A	TOP LONGITUDINAL	4	41	89			E			104	9.0	2	0.0								108	9.0					2978
310B	BOTTOM LONGITUDINAL	4	58	89			E			104	9.0	2	0.0								108	9.0					4213
311A	BOTTOM TRANSVERSE	5	205	51			E			35	11.0										36	6.0					7802
311B	BOTTOM TRANSVERSE	5	205	51			E			35	11.0										36	6.0					7802
311C	TOP TRANSVERSE AT OVERHANG	5	206	51			E			6	0.0										6	7.0					1412
S1	DECK BARRIER CONNECTION	5	121	69			E			1	0.0	0	4.0	1	11.0	0	12.0	0	0.0		3	9.0					468
S2	DECK BARRIER CONNECTION	4	71	69			E			1	0.0	0	4.0	1	11.0	0	0.0	0	0.0		2	10.0					136
	END DIAPHRAGM																										
301	PIER 1 & 2 TOP LONGITUDINAL	6	4	52			E			35	11.0										37	3.0					224
302	PIER 1 & 2 BOT. LONGITUDINAL	6	4	50			E			35	11.0										35	11.0					216
303	PIER 1 AND 2 STIRRUPS	4	120	58	T					6	0.0										6	8.0					534
304	PIER 1 AND 2 STIRRUPS	4	58	62						1	11.0	5	3.0	0	0.0	0	6.0	0	0.0		7	5.0					287
305	PIER 1 AND 2 LONGITUDINAL	4	32	50						35	11.0										35	11.0					768
306	PIER 1 AND 2 TOP TIES	4	57	56						1	12.0										3	1.0					117
	INTERMEDIATE DIAPHRAGM																										
410	STIRRUPS	4	36	71						0	5.0	3	10.0	3	10.0						7	10.0					188

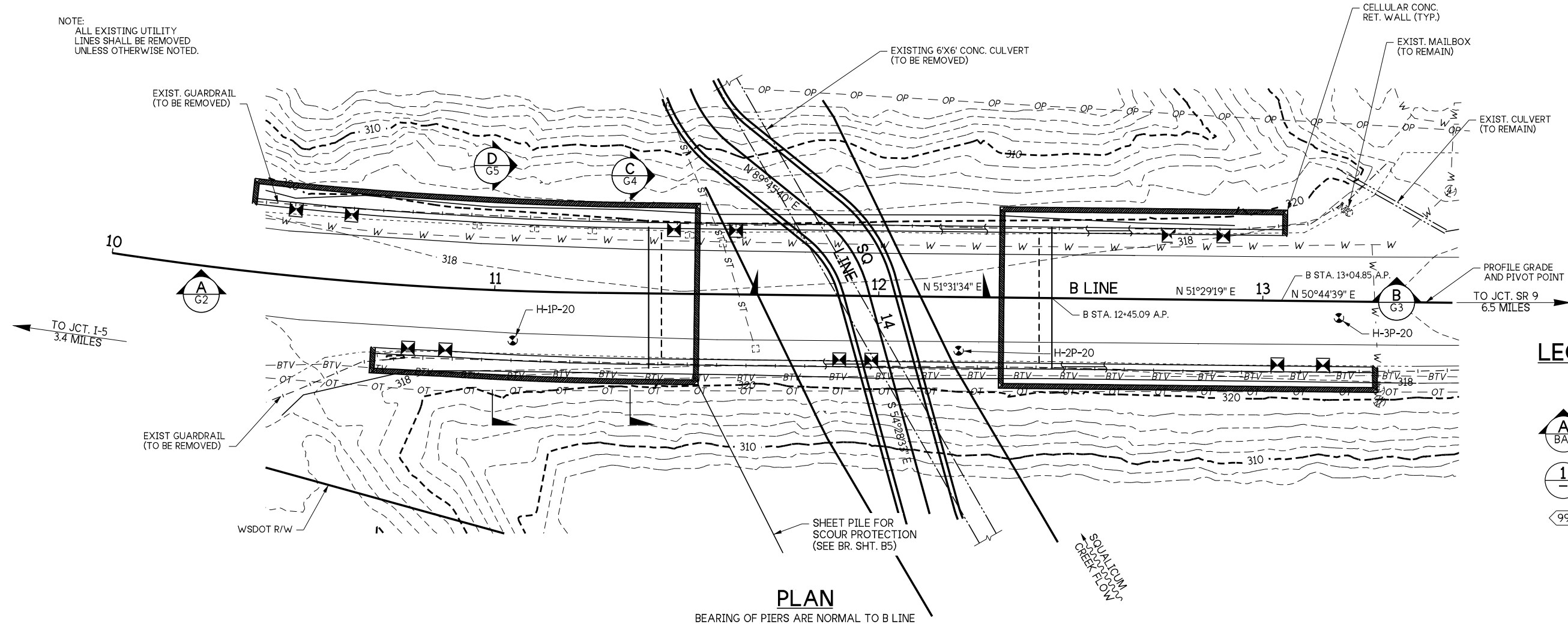
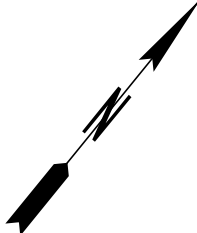
- FILE NO.  
OF  
BRIDGE SHEET
- SR
- (1) T = TRANSVERSE S = SEISMIC  
(2) S = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES  
(3) E = BAR IS TO BE EPOXY COATED G = BAR IS TO BE GALVANIZED   
(4) V = BAR DIMENSIONS VARY BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE

FILE PATH / NAME c:\users\deboejak\pw_wsdot\0474010\35 BAR LIST.dgn						
BRIDGE DES. ENG. KHALEGHI, B						
BRIDGE PROJ. ENG.						
SUPERVISOR ZELDENRUST, R						
DESIGNED BY BONDY, T						
CHECKED BY BARKLEY, J						
ENTERED BY DEBOER, J						
PRELIM. PLAN BY						
ARCH. / SPEC.						
PLOT DATE: 1/5/2023				PLOT TIME: 4:43:58 PM		
PLOTTED BY: deboejak				REVISION		DATE BY

MARK NO.	LOCATION	SIZE	QTY.	BEND TYPE	TIE OR STIRR. (1)	SUBSTR. (2)	COATING TYPE (3)	VARIES	NO. EACH	DIMENSIONS (OUT TO OUT)												LENGTH		WEIGHT		
										U		W		X		Y		Z		θ	θ	Ft.	In.	Ft.	In.	Ft.
411	BOTTOM LONGITUDINAL	7	4	50						29	2.0													29	2.0	238
412	CONTINUOUS LONGITUDINAL	7	2	50						29	2.0													29	2.0	119
413	BETWEEN WEBS	4	24	50						9	3.0													9	3.0	148
414	DIAPHRAGM DECK CONNECTION	6	4	52			E			33	0.0													34	4.0	207
415	BETWEEN THE FLANGES	4	24	71				V	2	0	5.0	2	2.0	2	2.0									4	6.0	70
										0	5.0	2	0.0	2	0.0									4	3.0	
	PIER 1 AND 2 GIRDER STOPS																									
501	EXTER. GIRDER STOP STIRRUPS	5	12	74		S				1	4.0	2	7.0	2	7.0									6	3.0	78
502	EXTER. GIRDER STOP HORIZ.	5	12	50		S				5	7.0													5	7.0	70
503	INTER. GIRDER STOP STIRRUPS	5	36	74		S				1	4.0	2	7.0	2	7.0									6	3.0	234
504	INTERIOR GIRDER STOP HORIZ.	5	18	50		S				6	5.0													6	5.0	121

SEC. 10, T.38N., R.3E., W.M.  
WHATCOM COUNTY

NOTE:  
ALL EXISTING UTILITY  
LINES SHALL BE REMOVED  
UNLESS OTHERWISE NOTED.



- LEGEND:**
- ARROW DENOTES DIRECTION AT WHICH SECTION, ELEVATION, OR VIEW WAS TAKEN
  - IDENTIFIES SECTION, VIEW, OR ELEVATION
  - IDENTIFIES SHEET TAKEN FROM OR SHOWN ON
  - IDENTIFIES DETAIL NUMBER
  - SHOWN ON THE SAME SHEET
  - KEY NOTE: IDENTIFIES NOTE REFERENCE ON THE SAME SHEET
  - EXISTING CATCH BASIN
  - SOIL BORING LOCATIONS
  - EXISTING WATER VALVE BOX
  - EXISTING WATER METER BOX
  - BRIDGE GRATE INLET
  - JUNCTION BOX
  - EXIST. WATER LINE
  - EXIST. STORM SEWER
  - EXIST. BURIED CABLE TV
  - EXIST. OVERHEAD TELEPHONE LINE
  - EXIST. OVERHEAD POWER LINE

SR  
BRIDGE SHEET  
OF  
FILE NO.

FILE PATH / NAME c:\users\bondyt\pw_wsdot\0474010\G1 - CCRW DETAILS 1 OF 7.dgn			
STATE GEOTECH. ENG. FISKE, A			
BRIDGE PROJ. ENG.			
SUPERVISOR	FISKE, A		
DESIGNED BY	BRUCE, J		
CHECKED BY	SCHMITZ, M		
ENTERED BY	DEBOER, J		
PRELIM. PLAN BY			
ARCH. / SPEC.			
PLOT DATE: 12/22/2022	PLOT TIME: 2:03:09 PM	PLOTTED BY: BondyT	
REVISION		DATE	BY

REGION NO.	STATE
10	WASH
JOB NUMBER	22A033
CONTRACT NO.	

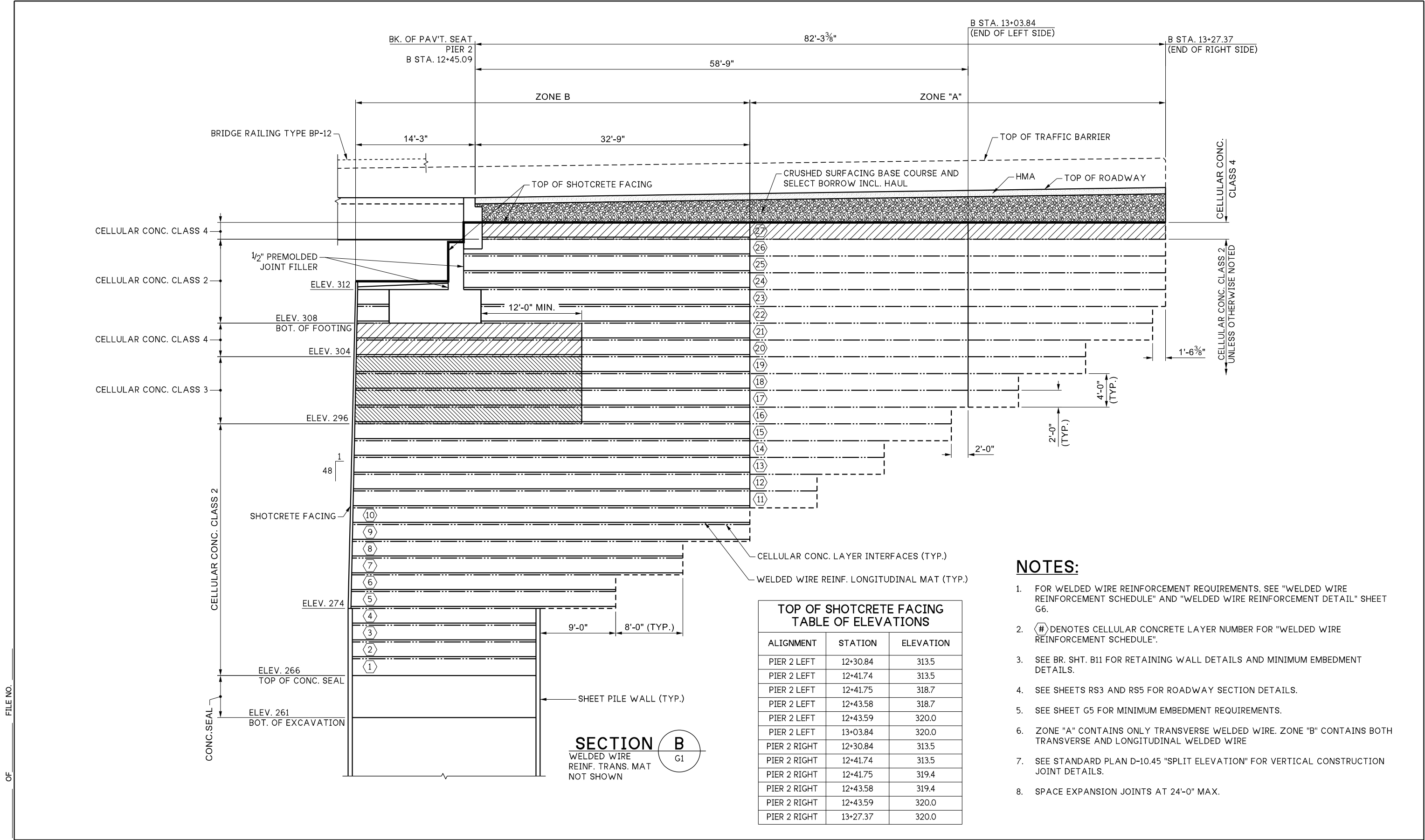


SR 542  
SQUALICUM CRK TO BELLINGHAM BAY  
FISH PASSAGE  
SQUALICUM CREEK BRIDGE 542/3  
CELLULAR CONCRETE RETAINING WALL  
DETAILS 1 OF 7

PLAN REF NO	G1
SHEET	76
OF	95
SHEETS	











1. WELDED WIRE REINFORCEMENT NOT SHOWN FOR CLARITY. SEE "WELDED WIRE REINFORCEMENT SCHEDULE" AND "WELDED WIRE REINFORCEMENT DETAIL" SHT. G6.
2. FOR BRIDGE DRAIN AND EMBANKMENT DITCH DETAILS. SEE BRIDGE SHEET B11.

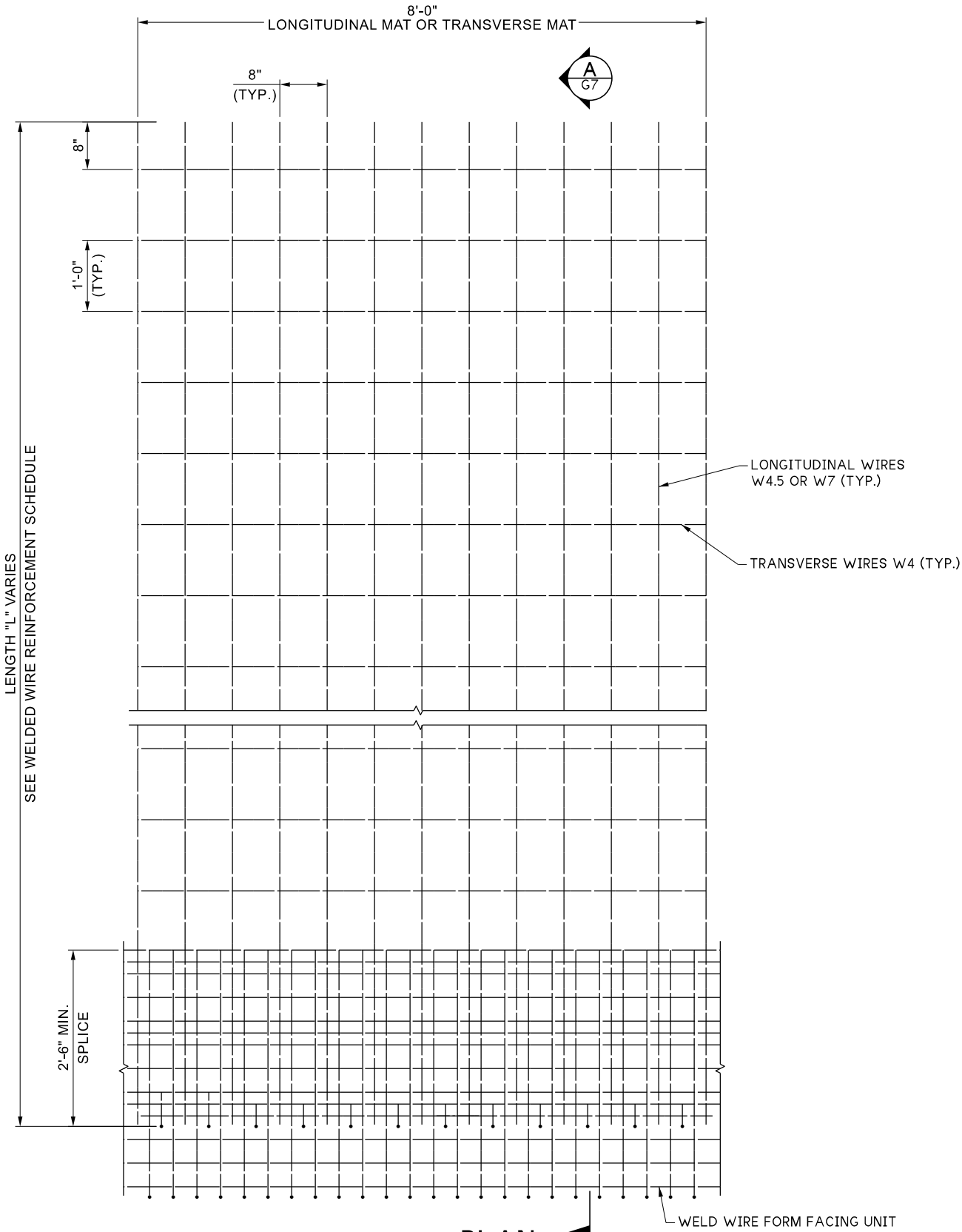
BRIDGE SHEET   
--

SR  
BRIDGE SHEET  
OF  
FILE NO.

WELDED WIRE REINFORCEMENT SCHEDULE				
PIER	LOCATION	CELLULAR CONCRETE LAYER	STYLE	LENGTH "L" (FT)
1 AND 2	LONGITUDINAL MAT	1 THRU 4	8 X 12 - W7 X W4	22
		5 & 6	8 X 12 - W7 X W4	31
		7 & 8	8 X 12 - W4.5 X W4	39
		9 THRU 18	8 X 12 - W4.5 X W4	47
		19 THRU 21	8 X 12 - W7 X W4	47
		22 THRU 26	8 X 12 - W4.5 X W4	32.5
	TRANSVERSE MAT	1 THRU 6	8 X 12 - W7 X W4	22.5
		7 THRU 18	8 X 12 - W4.5 X W4	22.5
		19 THRU 21	8 X 12 - W7 X W4	22.5
		22 THRU 26	8 X 12 - W4.5 X W4	22.5

NOTES:

- PLACE LONGITUDINAL WIRES OF LONGITUDINAL MAT PARALLEL TO CENTERLINE OF ROADWAY.
- PLACE LONGITUDINAL WIRES OF TRANSVERSE MAT NORMAL TO CENTERLINE OF ROADWAY.
- WELDED WIRE REINFORCEMENT FOR BOTH LONGITUDINAL MATS AND TRANSVERSE MATS SHALL CONFORM TO AASHTO M 336, GRADE 65.
- LONGITUDINAL MATS AND TRANSVERSE MATS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A 641 OR AASHTO M 111 AS APPLICABLE. MINIMUM COATING THICKNESS SHALL BE TWO OUNCES PER SQUARE FOOT AND EQUIVALENT. ALL DAMAGE TO THE GALVANIZING SHALL BE REPAIRED WITH ONE COAT OF PAINT CONFORMING TO STD. SPEC. SECTION 9-08.1(2) B.
- LONGITUDINAL MATS AND TRANSVERSE MATS SHALL HAVE 90° BEND EXCEPT IN THE AREA ENCLOSED BY THE STEEL SHEET PILES WHERE NO BEND IS NECESSARY (SEE BR. SHT. G7 FOR DETAILS).
- THE CONTRACTOR SHALL TRIM WELDED WIRE REINFORCEMENT THAT INTERFERES WITH CATCH BASIN (MAX. 4 LONGITUDINAL WIRES). CUTTING OF THE LONGITUDINAL WIRE SHALL BE ALLOWED ONLY AS DIRECTED BY THE ENGINEER AT OTHER LOCATIONS.
- FOR WELDED WIRE FORM FACING UNIT DETAILS SEE SHEET G7.
- LONGITUDINAL MATS AND TRANSVERSE MATS SHALL HAVE A MINIMUM VERTICAL CLEAR DISTANCE OF 1-INCH AND A MAXIMUM VERTICAL CLEAR DISTANCE OF 3-INCHES.
- SPLICING OF LONGITUDINAL AND TRANSVERSE MAT IN THE LONGITUDINAL DIRECTION, RELATIVE TO EACH MAT ORIENTATION, SHALL NOT BE ALLOWED.



PLAN  
WELDED WIRE REINFORCEMENT DETAIL

CONSTR. GEOTEXTILE NOT SHOWN FOR CLARITY

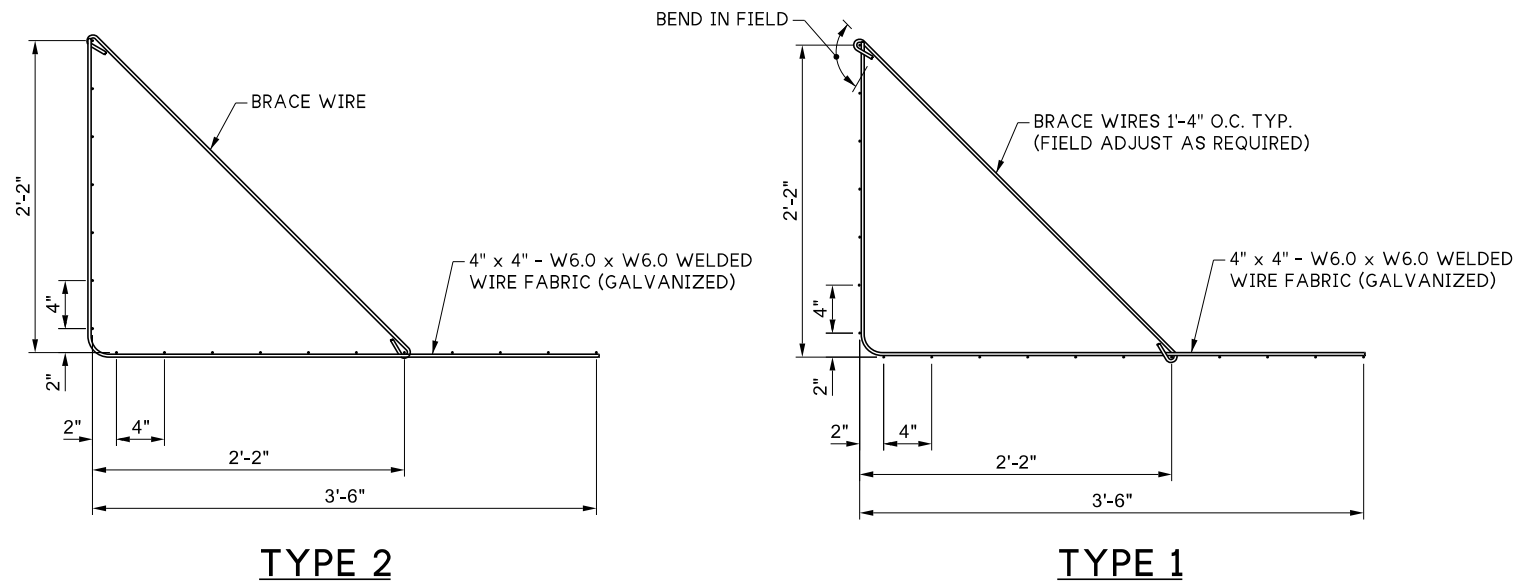
FILE PATH / NAME c:\users\bondyt\pw_wsdot\0474010\G6 - CCRW DETAILS 6 OF 7.dgn				REGION NO.	STATE
STATE GEOTECH. ENG. FISKE, A				10	WASH
BRIDGE PROJ. ENG.				JOB NUMBER	
SUPERVISOR FISKE, A				22A033	
DESIGNED BY BRUCE, J				CONTRACT NO.	
CHECKED BY SCHMITZ, M					
ENTERED BY DEBOER, J					
PRELIM. PLAN BY					
ARCH. / SPEC.				REVISION	DATE BY
PLOT DATE: 12/22/2022				PLOT TIME: 2:03:19 PM	
				PLOTTED BY: BondyT	



SR 542  
SQUALICUM CRK TO BELLINGHAM BAY  
FISH PASSAGE  
SQUALICUM CREEK BRIDGE 542/3  
CELLULAR CONCRETE RETAINING WALL  
DETAILS 6 OF 7

PLAN REF NO  
G6  
SHEET  
81  
OF  
95  
SHEETS

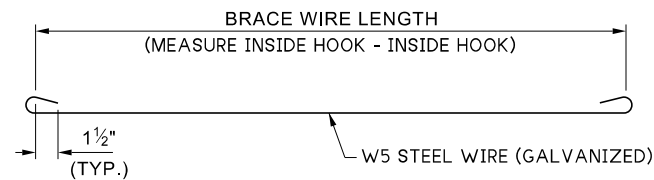
SR  
BRIDGE SHEET  
OF  
FILE NO.



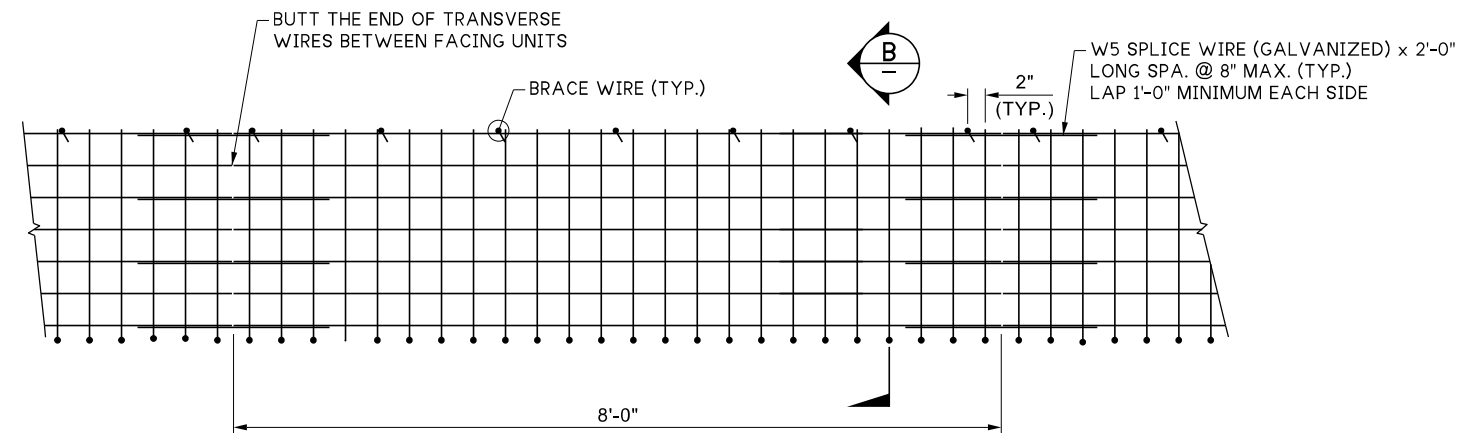
TYPE 2

TYPE 1

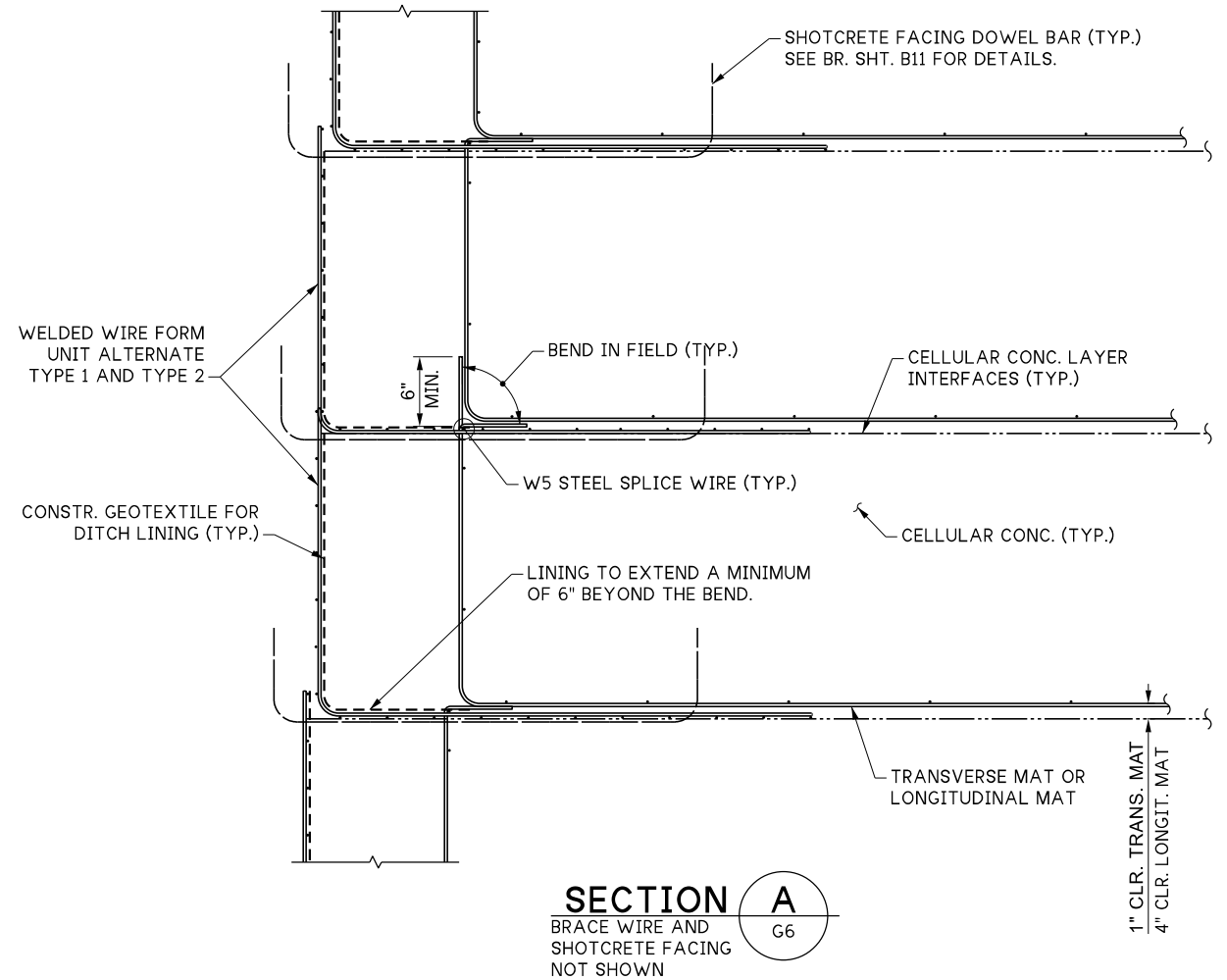
SECTION B



BRACE WIRE DETAIL



ELEVATION  
WELDED WIRE FORM FACING UNIT



SECTION A

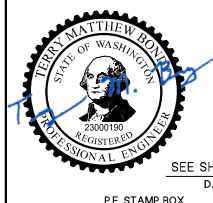
BRACE WIRE AND  
SHOTCRETE FACING  
NOT SHOWN

NOTES:

1. THE WELDED WIRE FORM FACING UNIT HAS BEEN DESIGNED TO SUPPORT 2 FOOT LIFTS OF CELLULAR CONCRETE. THIS FORM FACING UNIT SYSTEM IS A PROPOSED SYSTEM. THE CONTRACTOR MAY PROPOSE AN ALTERNATE SYSTEM AS REQUIRED TO CONTAIN THE CELLULAR CONCRETE FOR PLACEMENT.
2. WELDED WIRE FORM FACING UNITS, BRACE WIRES AND SPLICE WIRES SHALL CONFORM TO AASHTO M 336, GRADE 65.
3. GALVANIZING SHALL BE IN ACCORDANCE WITH ASTM A 641 OR AASHTO M 111 AS APPLICABLE. MINIMUM COATING THICKNESS SHALL BE TWO OUNCES PER SQUARE FOOT AND EQUIVALENT. ALL DAMAGE TO THE GALVANIZING SHALL BE REPAIRED WITH ONE COAT OF PAINT CONFORMING TO STD. SPEC. SECTION 9-08.1(2) B.
4. CONSTRUCTION GEOTEXTILE FOR DITCH LINING SHALL CONFORM TO THE PROPERTIES IN TABLE 4 WOVEN DITCH LINING IN STD. SPEC. SECTION 9-33.
5. SPLICE WIRES SHALL BE USED BETWEEN FACING UNITS AT EDGES AND CORNERS.

FILE PATH / NAME	c:\users\deboejak\pw_wsdot\0474010\G7 - CCRW DETAILS 7 OF 7.dgn
BRIDGE DES. ENG.	KHALEGI, B
BRIDGE PROJ. ENG.	
SUPERVISOR	ZELDENRUST, R
DESIGNED BY	BONDY, T
CHECKED BY	BARKLEY, J
ENTERED BY	DEBOER, J
PRELIM. PLAN BY	
ARCH. / SPEC.	
PLOT DATE: 1/5/2023	PLOT TIME: 4:44:38 PM
PLOTTED BY: deboejak	

REGION NO.	STATE
10	WASH
JOB NUMBER	
22A033	
CONTRACT NO.	





SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE SQUALICUM CREEK BRIDGE 542/3	PLAN REF NO G7
CELLULAR CONCRETE RETAINING WALL DETAILS 7 OF 7	SHEET 82 OF 95 SHEETS





SIGNAL - LEGEND


Existing


































New





























Utility Pole

Controller Cabinet

Beacon Flash Control Service Cabinet

Emergency Vehicle Preemption

Vehicle Signal Head

4 Way Flashing Beacons

Conduit

Timber Pole


Span Wire


Video Detection Camera


Video Detection Zone


Sign

Symbols

TIMBER POLE

Wire Note

Construction Note

Sign Note

ABBREVIATION LIST

CS	CONDUCTOR SHIELDED
E.V.	EMERGENCY VEHICLE
EX	EXISTING
SP	SPAN WIRE
TYP	TYPICAL
VEH	VEHICLE
VDC	VIDEO DETECTION CAMERA
VDZ	VIDEO DETECTION ZONE
CL	ROADWAY CENTERLINE

CONSTRUCTION NOTES:

1 REMOVE THE EXISTING FLASHING BEACON AND SPAN WIRE.PROTECT AND MAINTAIN FOR PERMANENT REINSTALLATION. DISCONNECT EX SIGNAL AND BOND CABLES FROM EX BEACON FLASH CONTROL SERVICE CABINET AND COIL WIRES ON UTILITY POLE FOR PERMANENT RECONNECTION.REINSTALL THE FLASHING BEACON SIGNAL SYSTEM,EX SPANWIRE, RECONNECT SIGNAL AND BOND CABLES BACK TO COUNTY SYSTEM AFTER THE TEMPORARY DETOUR PERIOD.

2 INSTALL SPAN WIRE ON EXISTING POLES USING EXISTING ATTACHMENTS.RAISE SPAN WIRE ATTACHMENT POINT ON THE NE CORNER TIMBER POLE IF NECESSARY TO MAINTAIN MINIMUM ROADWAY CLEARANCE OF 15.5'PER WSDOT STANDARD PLAN J-15.15.REMOVE THE SPAN WIRE AFTER THE TEMPORARY DETOUR PERIOD.

3 INSTALL 16'LUMINAIRE ARM USING BANDING METHOD TO EXISTING NE POLE.INSTALL TWO VIDEO DETECTION CAMERAS ON LUMINAIRE ARM AND ROUTE VIDEO CABLES TO THE CONTROLLER.SEE SHEET TSG6 FOR DETAIL.REMOVE LUMINAIRE ARMS,VIDEO DETECTION CAMERAS AND ALL ASSOCIATED EQUIPMENT AFTER THE TEMPORARY DETOUR PERIOD.RETURN ALL ASSOCIATED EQUIPMENT BACK TO CONTRACTING AGENCY IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

4 INSTALL SIGNAL HEADS WITH CAP VISORS AND EMERGENCY VEHICLE PREEMPTION DETECTORS.INSTALL TYPE Q SIGNAL HEAD MOUNTING FOR SIGNAL 42 AND 22,41 AND 61 PER WSDOT STANDARD PLAN J-75.20.INSTALL TYPE P SIGNAL HEAD MOUNTING FOR SIGNAL 21,62,81 AND 82 PER WSDOT STANDARD PLAN J-75.20.REMOVE SIGNAL HEADS AND ALL ASSOCIATED EQUIPMENT AFTER THE TEMPORARY DETOUR PERIOD.

5 INSTALL PRE-FABRICATED FOUNDATION,SEE SHEET TSG1 FOR DETAIL.INSTALL TYPE 332 CONTROLLER CABINET WITH 2070 CONTROLLER ON FOUNDATION.CONTRACTOR SHALL PROVIDE ALL OTHER ASSOCIATED EQUIPMENT FOR FULLY OPERATIONAL SIGNAL SYSTEM.REMOVE CONTROLLER CABINET,FOUNDATION AND ALL ASSOCIATED EQUIPMENT AFTER THE TEMPORARY DETOUR PERIOD.RETURN ALL ASSOCIATED EQUIPMENT TO CONTRACTING AGENCY IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

6 INSTALL 3"CONDUIT RISER PER UTILITY COMPANY'S REQUIREMENTS,MINIMUM 20'TALL FROM THE GROUND WITH WEATHER HEAD ON THE EX SW UTILITY POLE.

7 MOVE THE EXISTING PLASTIC STOP LINE.SEE SHEET PM1 FOR DETAIL.MOVE THE EXISTING PLASTIC STOP LINE TO THE ORIGINAL LOCATION AFTER THE TEMPORARY DETOUR PERIOD.

8 REMOVE THE STOP SIGN AND SOLAR PANEL AT THE STOP LINE.THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE STOP SIGN AND THE SOLAR PANEL FOR REINSTALLATION.KEEP THE STREET NAME SIGN.PROTECT IN PLACE.REINSTALL THE STOP SIGN AND SOLAR PANEL AFTER THE TEMPORARY SIGNAL SYSTEM IS REMOVED.



9 REMOVE THE STOP AHEAD WARNING SIGN AND SOLAR PANEL.THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE STOP SIGN AND THE SOLAR PANEL FOR REINSTALLATION.REINSTALL THE STOP AHEAD WARNING SIGN AND SOLAR PANEL AFTER THE TEMPORARY SIGNAL SYSTEM IS REMOVED.

10 INSTALL 48"X 48"BLACK AND FLUORESCENT ORANGE SIGNAL AHEAD (W3-3) WARNING SIGN IN FRONT OF THE EXISTING STOP AHEAD SIGN ON 4' X 6'WOOD POST.SIGN SHALL HAVE SHEETING TYPE X. REMOVE THE SIGNAL AHEAD WARNING SIGN AND POST AFTER THE TEMPORARY DETOUR PERIOD.

11 COORDINATE WITH WHATCOM COUNTY ENGINEER FOR TEMPORARY SIGNAL POWER CONNECTION THROUGH THE ENGINEER. 5 DAYS ADVANCED NOTICE REQUIRED.

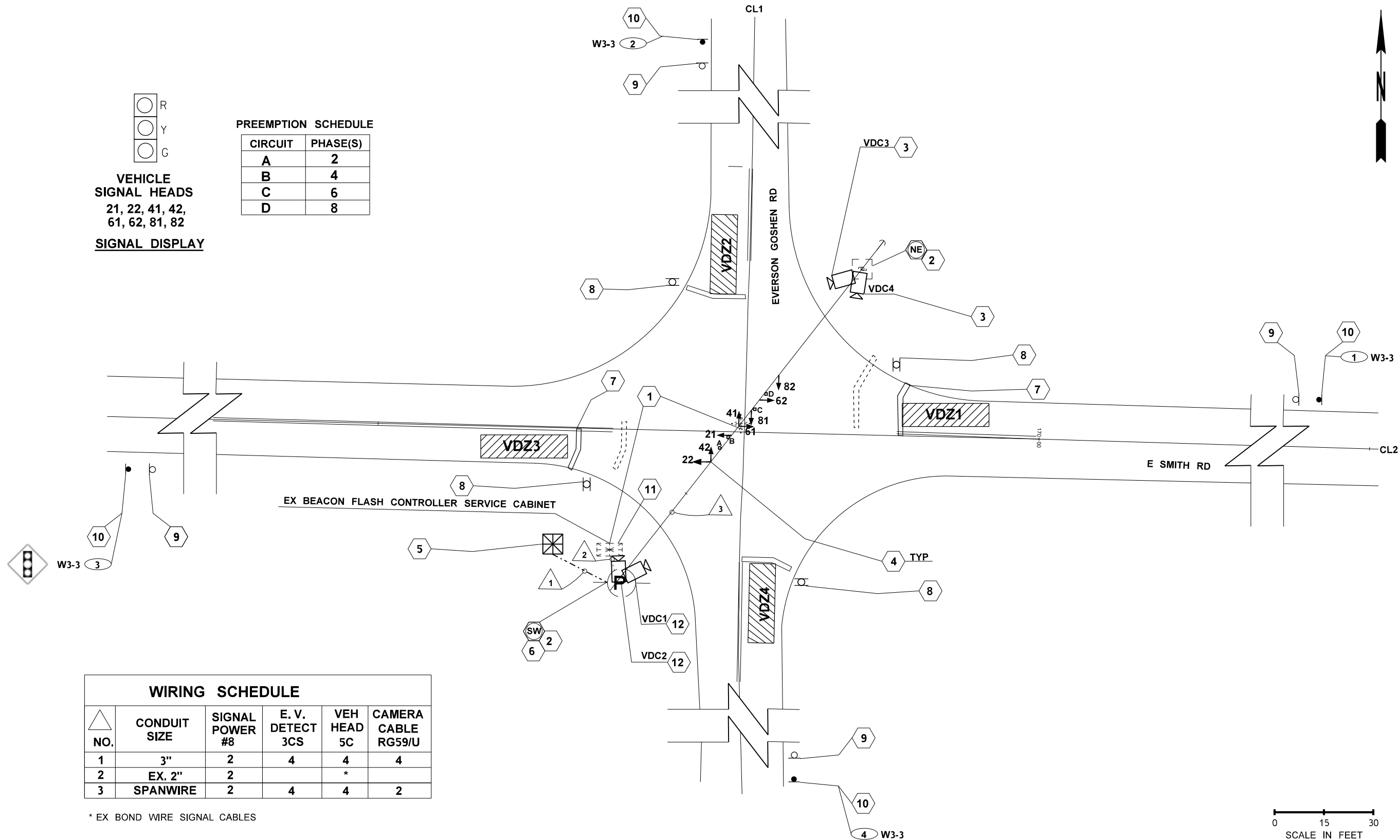
12 INSTALL TWO VIDEO DETECTION CAMERAS TO EXISTING LUMINAIRE ARM ON SW POLE AND ROUTE VIDEO CABLES TO THE CONTROLLER.SEE SHEET TSG6 FOR DETAIL.REMOVE VIDEO DETECTION CAMERAS AND ALL ASSOCIATED EQUIPMENT AFTER THE TEMPORARY DETOUR PERIOD.RETURN ALL ASSOCIATED EQUIPMENT BACK TO CONTRACTING AGENCY IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

TOP VIEW  
ISOMETRIC VIEW  
CONTROLLER CABINET FOUNDATION DETAIL

FILE NAME C:\Work\Project\On-going\1-XL6093-SR542 Squalicum Creek to Bellingham Bay-temp signal\XL6093_PS_SG.dgn										FED.AID PROJ.NO.			<div>P.E. STAMP BOX</div> <div>DATE</div>	<div>P.E. STAMP BOX</div> <div>DATE</div>	 <div>Washington State Department of Transportation</div>	SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE	Plot 1
TIME	1:44:10 PM																PLAN REF NO
DATE	1/9/2023																TSG1
PLOTTED BY	LuoW																SHEET
DESIGNED BY	W.LUO																83
ENTERED BY	W.LUO											CONTRACT NO.	LOCATION NO.				OF
CHECKED BY	E.HAVENS																95
PROJ. ENGR.	M.AMBLER																SHEETS
REGIONAL ADM.	B.NIELSEN																
REVISION										DATE		BY		TEMPORARY SIGNAL PLAN			

**VEHICLE SIGNAL HEADS**  
 21, 22, 41, 42,  
 61, 62, 81, 82  
**SIGNAL DISPLAY**

PREEMPTION SCHEDULE	
CIRCUIT	PHASE(S)
A	2
B	4
C	6
D	8





WIRING SCHEDULE					
△ NO.	CONDUIT SIZE	SIGNAL POWER #8	E. V. DETECT 3CS	VEH HEAD 5C	CAMERA CABLE RG59/U
1	3"	2	4	4	4
2	EX. 2"	2		*	
3	SPANWIRE	2	4	4	2

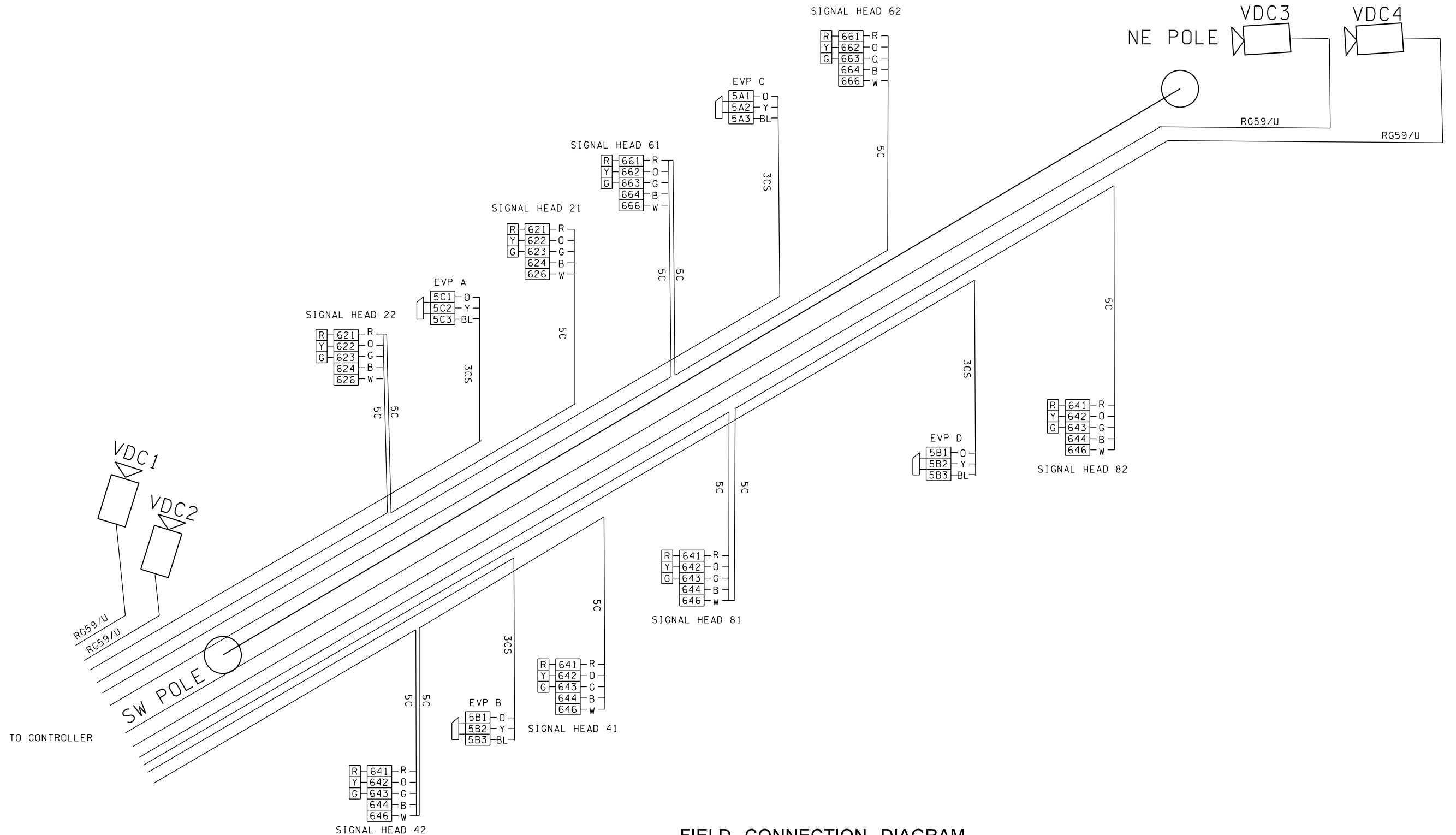
\* EX BOND WIRE SIGNAL CABLES

FILE NAME C:\Work\Project\On-going\1-XL6093-SR542 Squallcum Creek to Bellingham Bay-temp signal\XL6093_PS_SG.dgn		FED.AID PROJ.NO.		 <small>SEE SHEET CT1</small> <small>P.E. STAMP BOX</small>	<small>P.E. STAMP BOX</small>	 <b>Washington State</b> <b>Department of Transportation</b>	<b>SR 542</b> <b>SQUALICUM CRK TO BELLINGHAM BAY</b> <b>FISH PASSAGE</b> <b>TEMPORARY SIGNAL PLAN</b>	Plot 2 PLAN REF NO <b>TSG2</b>  SHEET <b>84</b> OF <b>95</b> SHEETS
TIME 1:44:11 PM		REGION NO. 10	STATE WASH					
DATE 1/9/2023		JOB NUMBER 22A033						
PLOTTED BY LuoW		CONTRACT NO.	LOCATION NO.					
DESIGNED BY W.LUO								
ENTERED BY W.LUO								
CHECKED BY E.HAVENS								
PROJ. ENGR. M.AMBLER								
REGIONAL ADM. B.NIELSEN	REVISION	DATE	BY					







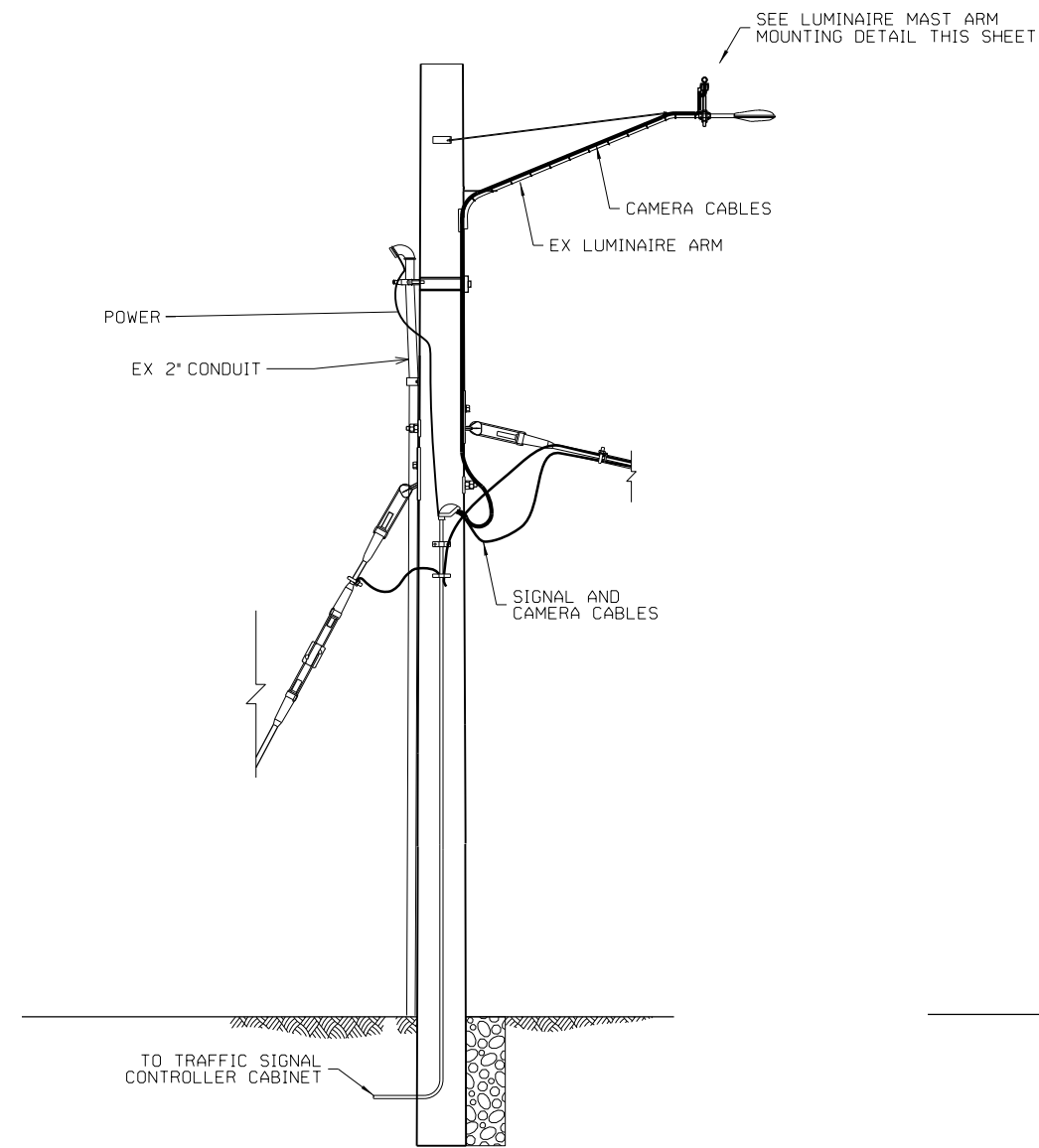
FILE NAME C:\Work\Project\On-going\1-XL6093-SR542 Squalicum Creek to Bellingham Bay-temp signal\XL6093_PS_SG.dgn												Plot 4	
TIME	1:44:12 PM						REGION NO.	STATE	FED.AID PROJ.NO.			PLAN REF NO	
DATE	1/9/2023						10	WASH				TSG4	
PLOTTED BY	LuoW						JOB NUMBER					SHEET	
DESIGNED BY	W.LUO						22A033					86	
ENTERED BY	W.LUO						CONTRACT NO.	LOCATION NO.				OF	
CHECKED BY	E.HAVENS											95	
PROJ. ENGR.	M.AMBLER											SHEETS	
REGIONAL ADM.	B.NIELSEN												
REVISION				DATE	BY								
										SEE SHEET CT1 DATE		P.E. STAMP BOX DATE	
												P.E. STAMP BOX DATE	
										SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE		TEMPORARY SIGNAL PLAN	



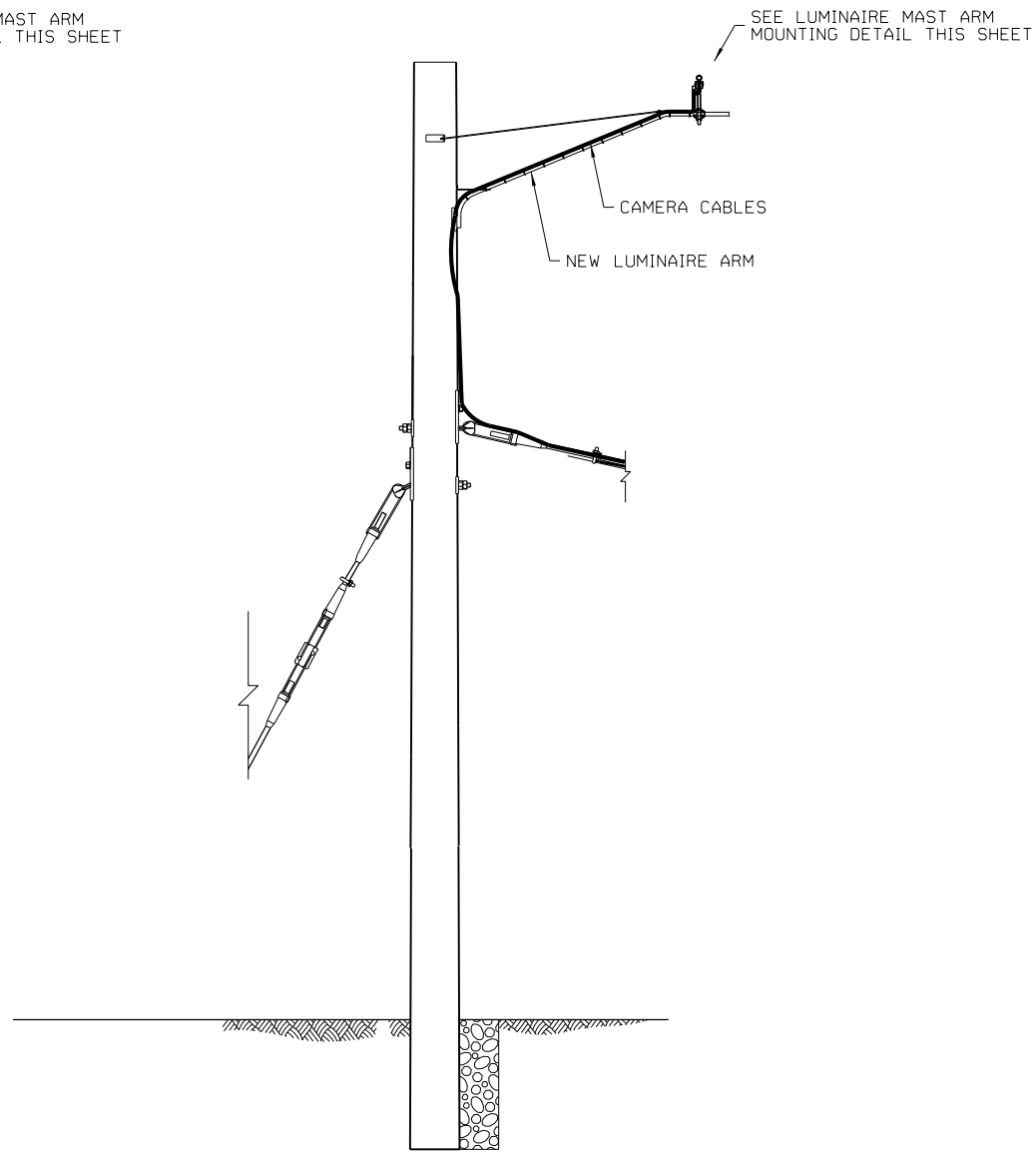
FIELD CONNECTION DIAGRAM

FILE NAME C:\Work\Project\On-going\1-XL6093-SR542 Squalicum Creek to Bellingham Bay-temp signal\XL6093_PS_SG.dgn										FED.AID PROJ.NO.				 Washington State Department of Transportation	SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE		Plot 5			
TIME 1:44:12 PM								PLAN REF NO TSG5												
DATE 1/9/2023								JOB NUMBER 22A033									SHEET 87			
PLOTTED BY LuoW																	OF 95			
DESIGNED BY W.LUO						CONTRACT NO.		LOCATION NO.				TEMPORARY SIGNAL PLAN		SHEETS						
ENTERED BY W.LUO																				
CHECKED BY E.HAVENS						REVISION		DATE	BY											
PROJ. ENGR. M.AMBLER																				
REGIONAL ADM. B.NIELSEN																				

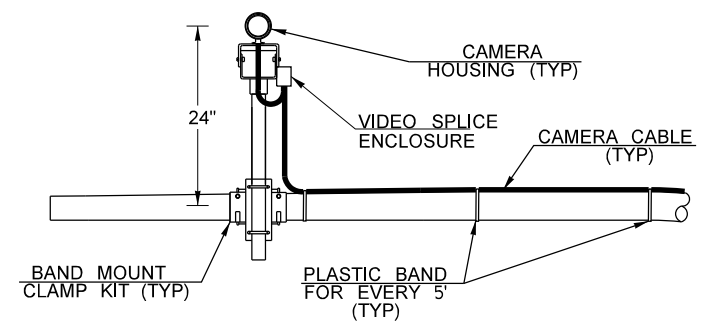






**POLE SW VIDEO CAMERA  
CABLE ROUTING DETAIL**



**POLE NE VIDEO CAMERA  
CABLE ROUTING DETAIL**



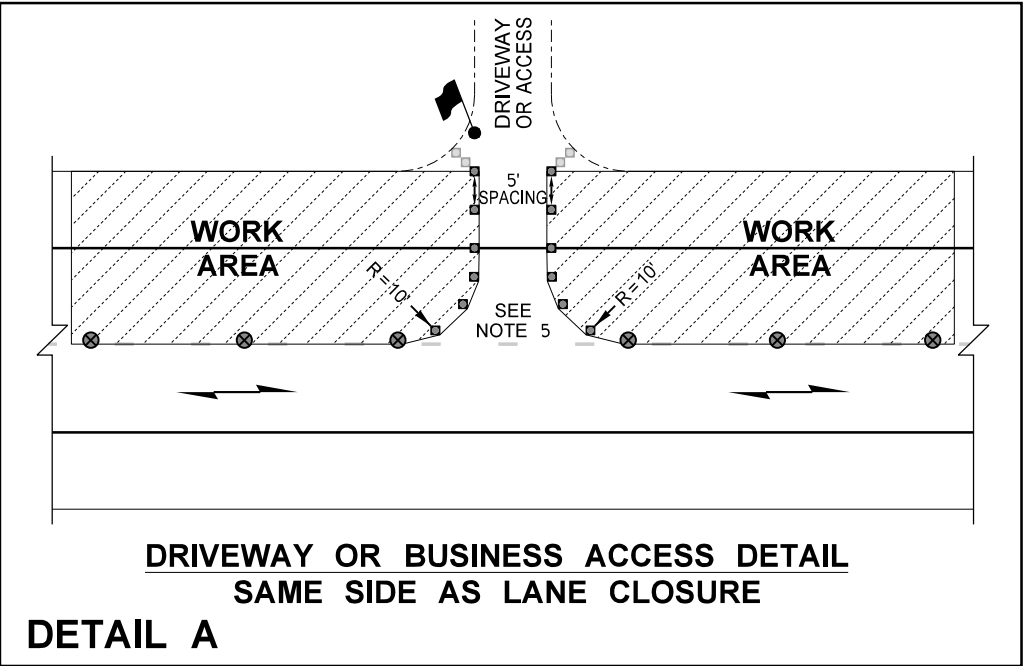
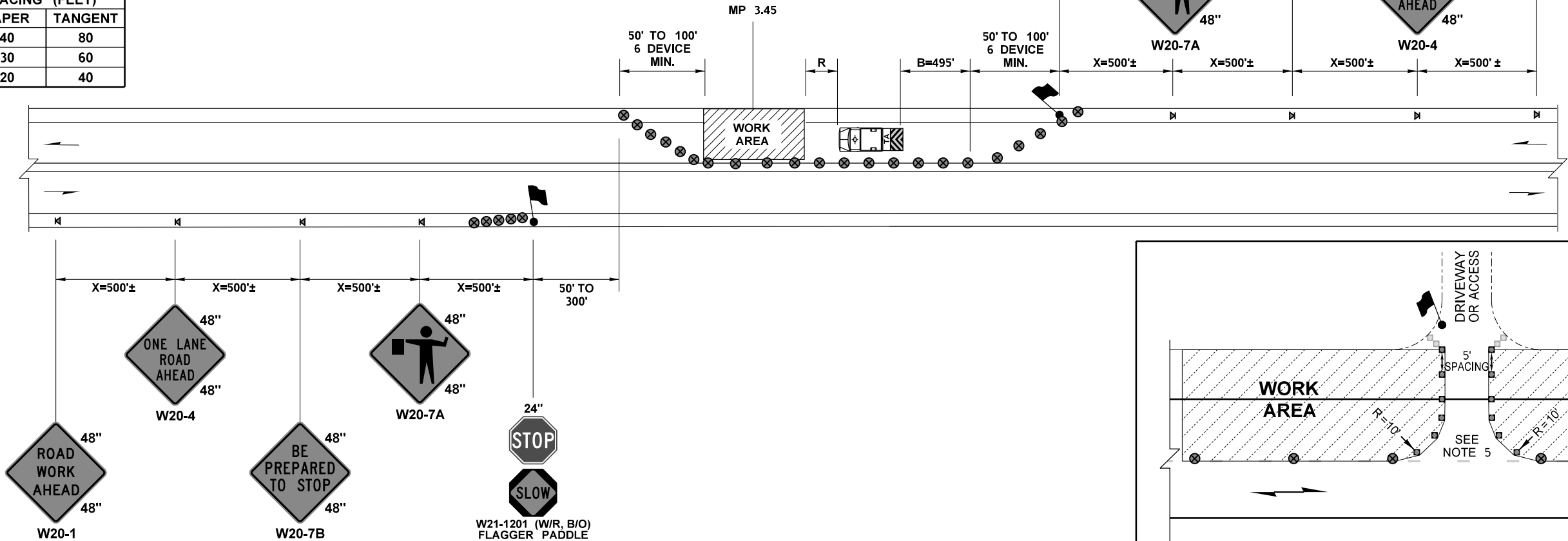
**VIDEO CAMERA MOUNTING DETAIL  
ON LUMINAIRE MAST ARM**

FILE NAME C:\Work\Project\On-going\1-XL6093-SR542 Squalicum Creek to Bellingham Bay-temp signal\XL6093_PS_SG.dgn										FED.AID PROJ.NO.			<div>SEE SHEET CT1</div> <div>DATE</div> <div>P.E. STAMP BOX</div>	<div>DATE</div> <div>P.E. STAMP BOX</div>	 <div>Washington State Department of Transportation</div>	SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE	Plot 6
TIME 1:44:13 PM				REGION NO.	STATE	PLAN REF NO											
DATE 1/9/2023				10	WASH	TSG6											
PLOTTED BY LuoW				JOB NUMBER		SHEET 88 OF 95 SHEETS											
DESIGNED BY W.LUO				22A033													
ENTERED BY W.LUO				CONTRACT NO.			TEMPORARY SIGNAL PLAN										
CHECKED BY E.HAVENS				LOCATION NO.													
PROJ. ENGR. M.AMBLER																	
REGIONAL ADM. B.NIELSEN																	
	REVISION	DATE	BY														

LONGITUDINAL BUFFER SPACE = B						
SPEED (MPH)	50	55	60	65	70	75
B (FEET)	425	495	570	645	730	820
STATIONARY TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R						
HOST VEHICLE WEIGHT			R			
9,900 TO 22,000 lbs.			172'			
22,001+ lbs.			150'			

MAXIMUM CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50-75	40	80
35-45	30	60
20-30	20	40

SIGN SPACING = X (1)		
RURAL HIGHWAYS	60-70 MPH	800' +/-
RURAL ROADS	45-55 MPH	500' +/-
RURAL ROADS & URBAN ARTERIALS	35-40 MPH	350' +/-
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25-30 MPH	200' +/- (2)
URBAN STREETS	25 MPH OR LESS	100' +/- (2)
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMP, AT-GRADE INTERSECTIONS AND DRIVEWAYS.		
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.		




LEGEND:	
	TEMPORARY SIGN LOCATION
	FLAGGER
	42 IN. TALL CHANNELIZATION DEVICE
	TRAFFIC SAFETY DRUM - SEE SPECIAL PROVISIONS
	SEQUENTIAL ARROW SIGN
	TRANSPORTABLE ATTENUATOR
	PROTECTIVE VEHICLE
	PORTABLE CHANGEABLE MESSAGE SIGN

SR 542 MP 3.37 - MP 3.52  
ALTERNATING ONE-LANE, TWO-WAY TRAFFIC CONTROL  
FLAGGER CONTROLLED

NOT TO SCALE

GENERAL NOTES:

- ALL SIGNS ARE BLACK ON ORANGE.
- EXTENDING THE CHANNELIZING DEVICE TAPER ACROSS SHOULDER IS RECOMMENDED.
- SEE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS:  
1-07.8(1) HIGH-VISIBILITY APPAREL  
1-10.3(1)A FLAGGER AND NIGHTTIME ILLUMINATION  
1-10.3(2)A TRAFFIC CONTROL PROCEDURES  
9-35.1 24-INCH STOP/SLOW PADDLE SIZE
- SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
- WORK MAY OCCUR ACROSS DRIVEWAY OR ACCESS APPROACH BY HOLDING ACCESS TRAFFIC UP TO 5 MINUTES AND RESTRICTING TURNS FROM MAINLINE. CHANNELIZATION DEVICES DELINEATING ACCESS MAY BE REMOVED.

FILE NAME T:\412354\XL6093_SR542_Squalicum_to_Bhami\CAE\ContractPlans\XL6093_370_PS_TC.dgn																		SR 542		Plot 1	
TIME 2:40:56 PM								REGION NO. 10		STATE WASH		FED.AID PROJ.NO.						PLAN REF NO			
DATE 12/28/2022																		TC1			
PLOTTED BY zakersr																					
DESIGNED BY R. ZAKERSKI																					
ENTERED BY R. ZAKERSKI																					
CHECKED BY A. GOO																					
PROJ. ENGR. M. AMBLER																					
REGIONAL ADM. B. NIELSEN																					
		REVISION		DATE		BY															



Washington State  
Department of Transportation

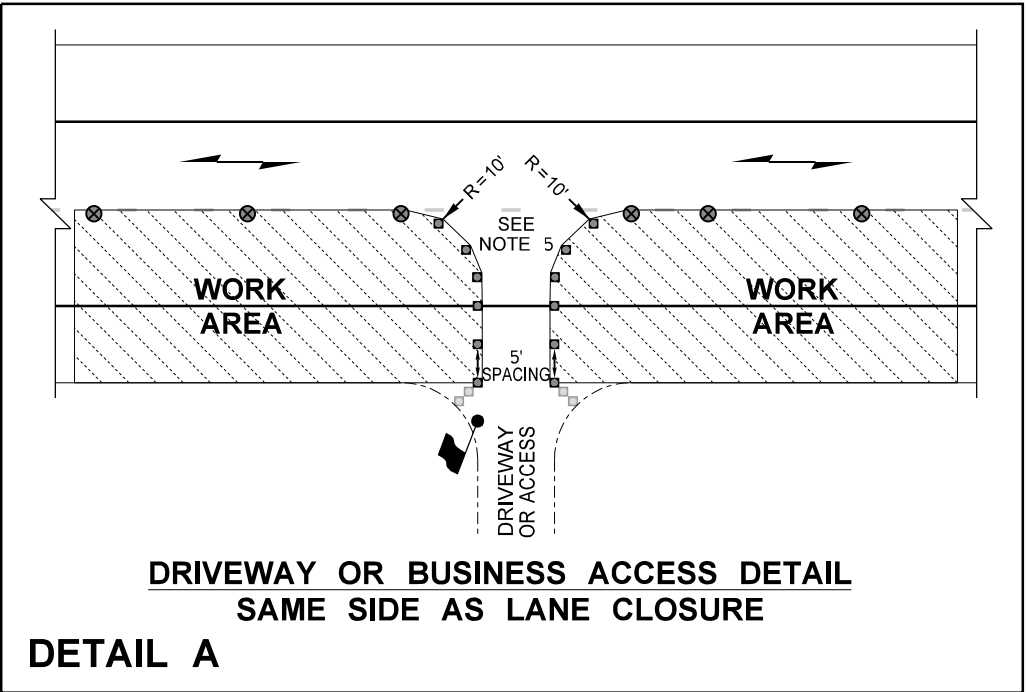
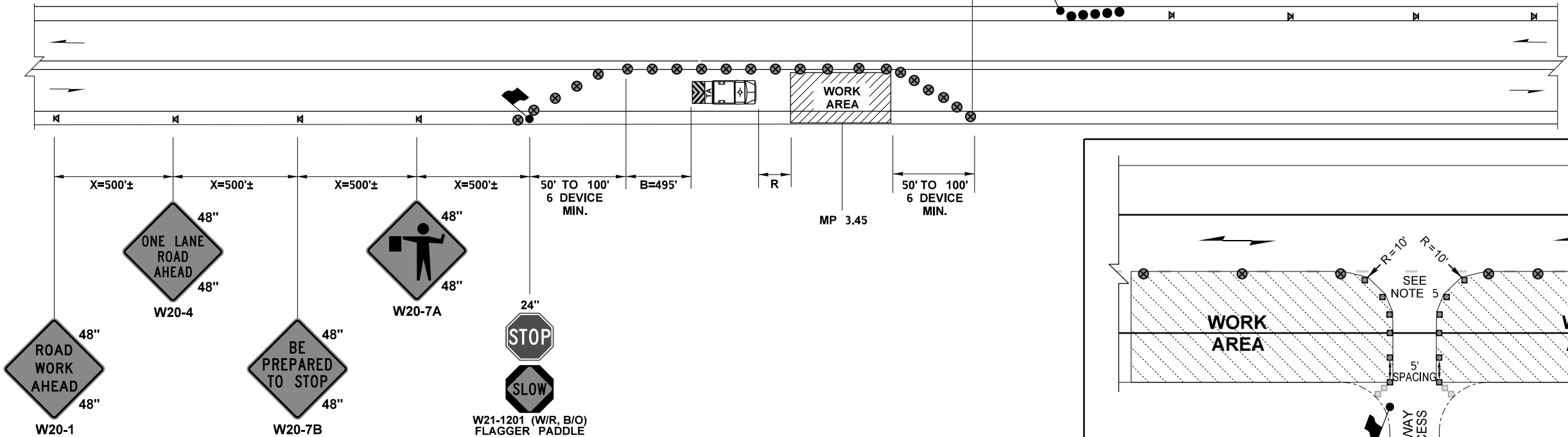
SR 542  
SQUALICUM CRK TO BELLINGHAM BAY  
FISH PASSAGE

TRAFFIC CONTROL PLAN

LONGITUDINAL BUFFER SPACE = B						
SPEED (MPH)	50	55	60	65	70	75
B (FEET)	425	495	570	645	730	820
STATIONARY TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R						
HOST VEHICLE WEIGHT			R			
9,900 TO 22,000 lbs.			172'			
22,001+ lbs.			150'			

MAXIMUM CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50-75	40	80
35-45	30	60
20-30	20	40

SIGN SPACING = X (1)		
RURAL HIGHWAYS	60-70 MPH	800' +/-
RURAL ROADS	45-55 MPH	500' +/-
RURAL ROADS & URBAN ARTERIALS	35-40 MPH	350' +/-
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25-30 MPH	200' +/- (2)
URBAN STREETS	25 MPH OR LESS	100' +/- (2)
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.		
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.		



- GENERAL NOTES:
- ALL SIGNS ARE BLACK ON ORANGE.
  - EXTENDING THE CHANNELIZING DEVICE TAPER ACROSS SHOULDER IS RECOMMENDED.
  - SEE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS:
    - 1-07.8(1) HIGH-VISIBILITY APPAREL
    - 1-10.3(1)A FLAGGER AND NIGHTTIME ILLUMINATION
    - 1-10.3(2)A TRAFFIC CONTROL PROCEDURES
    - 9-35.1 24-INCH STOP/SLOW PADDLE SIZE
  - SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
  - WORK MAY OCCUR ACROSS DRIVEWAY OR ACCESS APPROACH BY HOLDING ACCESS TRAFFIC UP TO 5 MINUTES AND RESTRICTING TURNS FROM MAINLINE. CHANNELIZATION DEVICES DELINEATING ACCESS MAY BE REMOVED.

LEGEND:	
	TEMPORARY SIGN LOCATION
	FLAGGER
	42 IN. TALL CHANNELIZATION DEVICE
	TRAFFIC SAFETY DRUM - SEE SPECIAL PROVISIONS
	SEQUENTIAL ARROW SIGN
	TRANSPORTABLE ATTENUATOR
	PROTECTIVE VEHICLE
	PORTABLE CHANGEABLE MESSAGE SIGN

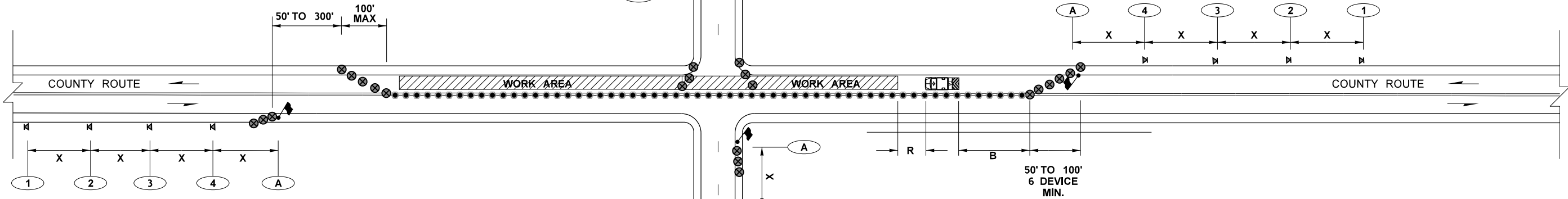
SR 542 MP 3.37 - MP 3.52  
ALTERNATING ONE-LANE, TWO-WAY TRAFFIC CONTROL  
FLAGGER CONTROLLED

NOT TO SCALE

FILE NAME T:\412354\XL6093_SR542_Squalicum_to_Bhami\CAEIContractPlans\XL6093_370_PS_TC.dgn																		Plot 2	
TIME	2:40:56 PM						REGION NO.	STATE	FED.AID PROJ.NO.							PLAN REF NO			
DATE	12/28/2022						10	WASH								TC2			
PLOTTED BY	zakersr						JOB NUMBER									SHEET			
DESIGNED BY	R. ZAKERSKI						22A033			LOCATION NO.							90 OF 95 SHEETS		
ENTERED BY	R. ZAKERSKI						CONTRACT NO.												
CHECKED BY	A. GOO																		
PROJ. ENGR.	M. AMBLER										DATE		DATE						
REGIONAL ADM.	B. NIELSEN										P.E. STAMP BOX		P.E. STAMP BOX						
REVISION				DATE	BY											TRAFFIC CONTROL PLAN			



BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730
TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R										
HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.					HOST VEHICLE WEIGHT > 22,000 lbs.					
< 45 MPH	45-55 MPH		> 55 MPH		< 45 MPH	45-55 MPH		> 55 MPH		
100'	123'		172'		74'	100'		150'		
PROTECTIVE VEHICLE (WORK VEHICLE) = R										
NO SPECIFIED DISTANCE REQUIRED										



SIGN SPACING = X (1)		
RURAL HIGHWAYS	60-70 MPH	800' +/-
RURAL ROADS	45-55 MPH	500' +/-
RURAL ROADS & URBAN ARTERIALS	35-40 MPH	350' +/-
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25-30 MPH	200' +/- (2)
URBAN STREETS	25 MPH OR LESS	100' +/- (2)
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.		
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.		

MAXIMUM CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50-75	40	80
35-45	30	60
20-30	20	40

#### SIGNING SEQUENCE

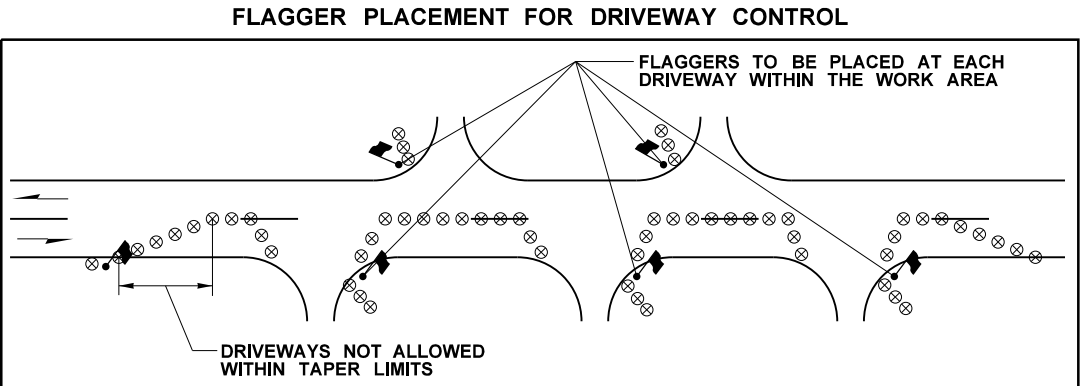


#### ONE LANE, TWO-WAY TRAFFIC CONTROL AT THROUGH INTERSECTION WITH FLAGGERS. NOT TO SCALE

#### GENERAL NOTES:

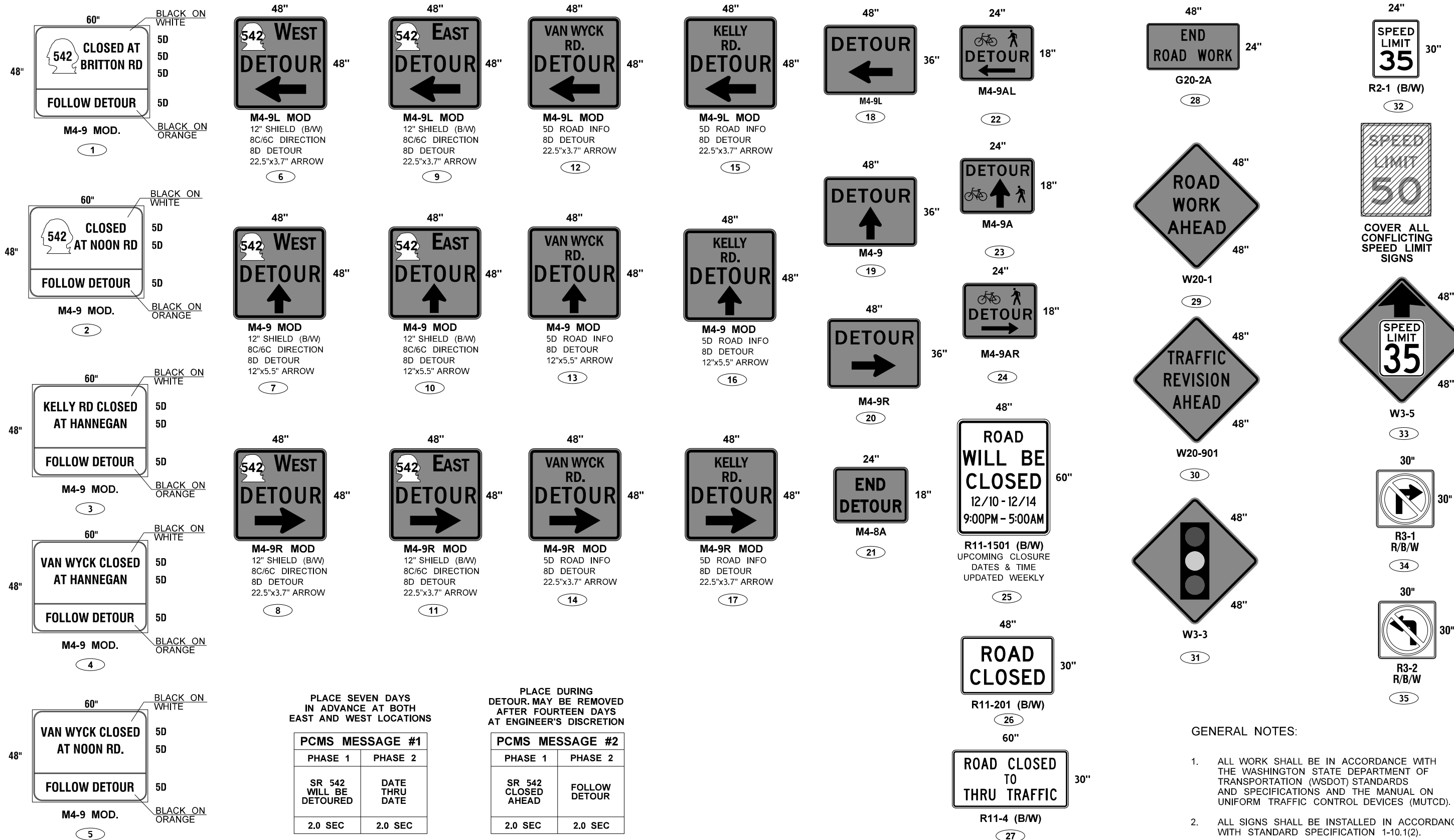
- ALL SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.
- EXTEND TAPER FOR CHANNELIZATION DEVICES ACROSS SHOULDER.
- SEE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS:  
1-07.8(1) HIGH-VISIBILITY APPAREL  
1-10.3(1)A FLAGGER AND NIGHTTIME ILLUMINATION  
1-10.3(2)A TRAFFIC CONTROL PROCEDURES  
9-35.1 24-INCH STOP/SLOW PADDLE SIZE
- SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
- CHANNELIZING DEVICE SPACING FOR DOWNSTREAM TAPER SHALL BE 20 FT O.C.
- WHEN FLAGGERS CONTROL A SIGNALIZED INTERSECTION, THE SIGNAL SHALL BE SET TO "RED FLASH MODE" OR TURNED OFF DURING FLAGGING OPERATION.
- REDUCE DEVICE SPACING BY HALF WHEN USING TALL CHANNELIZATION DEVICES INSTEAD OF TRAFFIC SAFETY DRUMS. TALL CHANNELIZATION DEVICES SHALL ONLY BE USED ON TANGENT SECTIONS.
- ACCESS SHALL BE MAINTAINED FOR BUSINESSES AND RESIDENCES WITHIN WORK AREA. FLAGGERS SHALL BE PLACED AT DRIVEWAYS WHEN WORK OCCURS NEAR DRIVEWAYS.
- PEDESTRIAN TRAFFIC SHALL BE ACCOMMODATED AT ALL TIMES, WHICH MAY INCLUDE ESCORTING PEDESTRIANS THROUGH THE WORK AREA AS NEEDED.
- 10-MINUTE MAXIMUM HOLD ON CROSS STREETS AND DRIVEWAYS. IF THE HOLD TIME EXCEEDS 10 MINUTES, TRAFFIC CONTROL MUST BE REMOVED TO ALLOW TRAFFIC TO FLOW UNIMPEDED.
- WORK IN OPPOSING LANE IS MIRRORRED.

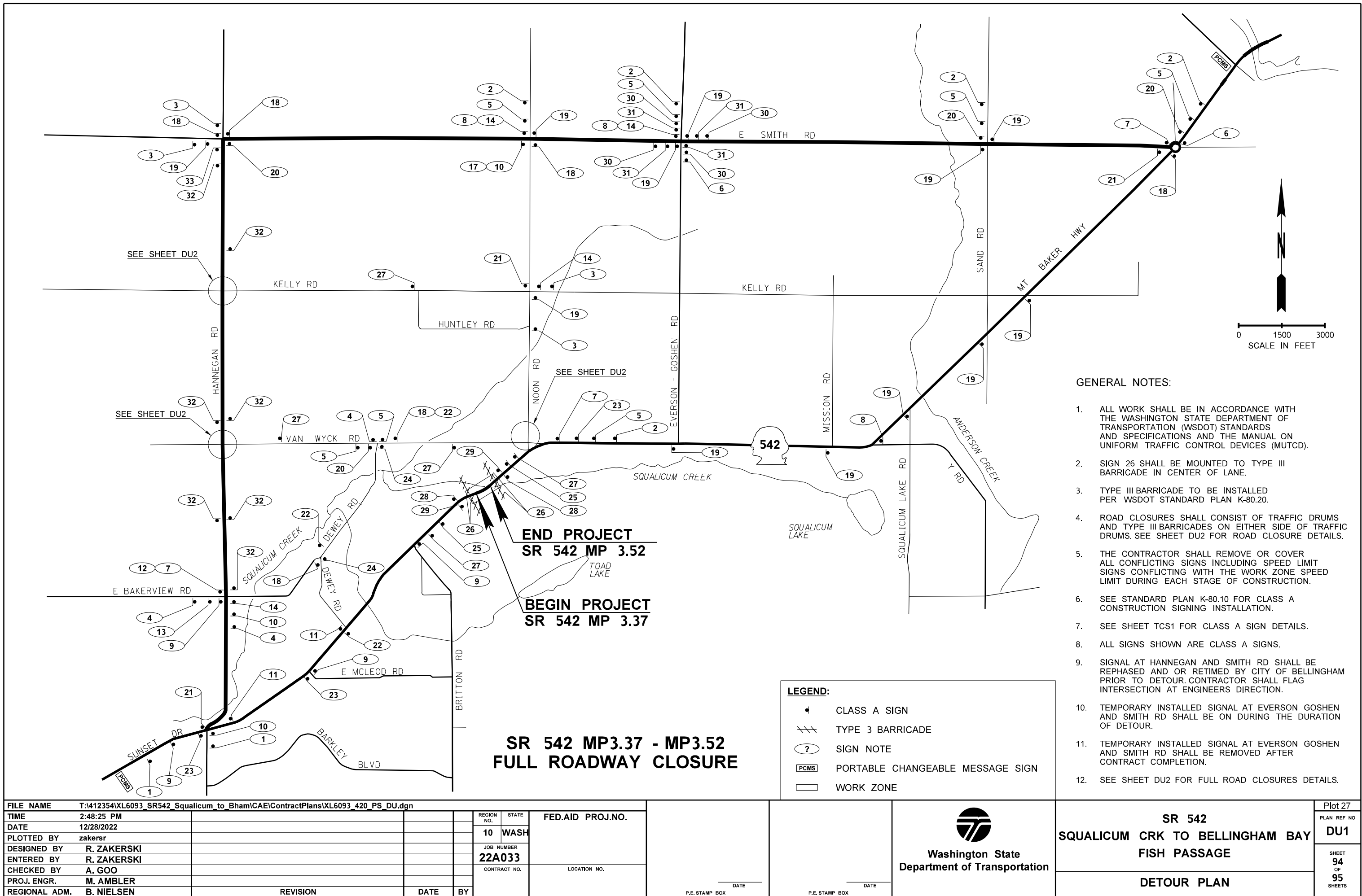
LEGEND:	
	TEMPORARY SIGN LOCATION
	FLAGGER
	42 IN. TALL CHANNELIZATION DEVICE
	TRAFFIC SAFETY DRUM - SEE SPECIAL PROVISIONS
	SEQUENTIAL ARROW SIGN
	TRANSPORTABLE ATTENUATOR
	PROTECTIVE VEHICLE
	PORTABLE CHANGEABLE MESSAGE SIGN



FILE NAME	T:\412354\XL6093_SR542_Squalicum_to_Bhami\CAE\ContractPlans\XL6093_370_PS_TC.dgn	REGION NO.	10	STATE	WASH	FED.AID PROJ.NO.		DATE		DATE		Plot 4
TIME	2:40:57 PM											PLAN REF NO
DATE	12/28/2022											TC4
PLOTTED BY	zakersr											SHEET
DESIGNED BY	R. ZAKERSKI											92
ENTERED BY	R. ZAKERSKI											OF
CHECKED BY	A. GOO											95
PROJ. ENGR.	M. AMBLER											SHEETS
REGIONAL ADM.	B. NIELSEN	REVISION		DATE	BY	LOCATION NO.						
Washington State Department of Transportation												SR 542 SQUALICUM CRK TO BELLINGHAM BAY FISH PASSAGE TRAFFIC CONTROL PLAN



[illegible]



GENERAL NOTES:

- ALL WORK SHALL BE IN ACCORDANCE WITH THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARDS AND SPECIFICATIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- SIGN 26 SHALL BE MOUNTED TO TYPE III BARRICADE IN CENTER OF LANE.
- TYPE III BARRICADE TO BE INSTALLED PER WSDOT STANDARD PLAN K-80.20.
- ROAD CLOSURES SHALL CONSIST OF TRAFFIC DRUMS AND TYPE III BARRICADES ON EITHER SIDE OF TRAFFIC DRUMS. SEE SHEET DU2 FOR ROAD CLOSURE DETAILS.
- THE CONTRACTOR SHALL REMOVE OR COVER ALL CONFLICTING SIGNS INCLUDING SPEED LIMIT SIGNS CONFLICTING WITH THE WORK ZONE SPEED LIMIT DURING EACH STAGE OF CONSTRUCTION.
- SEE STANDARD PLAN K-80.10 FOR CLASS A CONSTRUCTION SIGNING INSTALLATION.
- SEE SHEET TCS1 FOR CLASS A SIGN DETAILS.
- ALL SIGNS SHOWN ARE CLASS A SIGNS.
- SIGNAL AT HANNEGAN AND SMITH RD SHALL BE REPHASED AND OR RETIMED BY CITY OF BELLINGHAM PRIOR TO DETOUR. CONTRACTOR SHALL FLAG INTERSECTION AT ENGINEERS DIRECTION.
- TEMPORARY INSTALLED SIGNAL AT EVERSON GOSHEN AND SMITH RD SHALL BE ON DURING THE DURATION OF DETOUR.
- TEMPORARY INSTALLED SIGNAL AT EVERSON GOSHEN AND SMITH RD SHALL BE REMOVED AFTER CONTRACT COMPLETION.
- SEE SHEET DU2 FOR FULL ROAD CLOSURES DETAILS.

**LEGEND:**

- CLASS A SIGN
- TYPE 3 BARRICADE
- SIGN NOTE
- PORTABLE CHANGEABLE MESSAGE SIGN
- WORK ZONE





FILE NAME										T:\412354\XL6093_SR542_Squalicum_to_Bham\CAE\ContractPlans\XL6093_420_PS_DU.dgn																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											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